

Minnesota Medicine

Journal of the Minnesota State Medical Association

Vol. II

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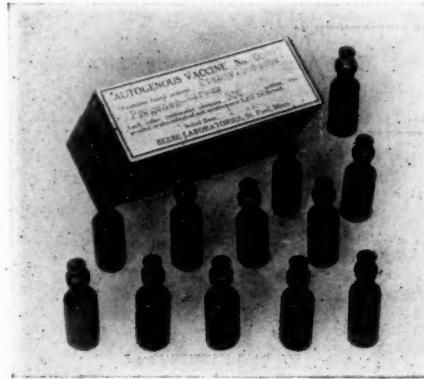
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ORIGINAL ARTICLES

SOME OF THE OLD HOSPITALS OF LONDON WITH SPECIAL REFERENCE TO THE TREATMENT OF FISTULA IN ANO WITH HEMORRHOIDS*

W. J. MAYO, M. D.
Rochester, Minn.

After the war the American surgeon will probably go to Germany but seldom for purposes of study as compared to his trips there in former years. It has taken this war, with all its horrors, to give us some idea of the working of the Prussian mind, and we must admit that the German scientific propaganda has been a masterpiece. We have gone to Germany in the past and have seen work which we knew had its origin in America, England, France, Italy, or the Scandinavian countries, appropriated, organized, and exploited without credit to the originators. We have accepted such German exploitations at face value, but the time has arrived when we shall make a new start; we shall resent as never before unfair treatment in scientific discoveries, and shall claim for each country credit for those discoveries which rightly belong to it. Yet the American surgeon must not become provincial. There is so much of interest to be seen abroad that we shall in the future visit many countries instead of confining our time to one, as in the past. We shall become more cosmopolitan and less influenced by German ideas in science, just as we shall free ourselves of the ragged remnants of German ideals.

To the English-speaking surgeon Great Britain offers wonderful scientific advantages. I wish to bear testimony to the honesty and sound sense of the London surgeons—provincial, yes, because in the last generation the English surgeons, as a whole, of whom there have been many charming exceptions, were contented with London, with London methods, with London hospitals, and, too often, with the methods in use in the single hospital in which they served. Shortly before the beginning of the war I had the pleasure of spending some time in London with James Berry, who besides being one of the most learned and able of the British surgeons, has a deserved reputation as an antiquarian. During the pleasant rambles that I had with him around the limits of the old city of London, I learned the why and wherefore of many of her places of historic interest; the reason why sections of the old walled city were given certain descriptive names and why the tower of London, the fortification of William the Conqueror, was placed at one corner of the medieval city so that on one side was the country, on the other, the Thames, thus making it impossible for the turbulent city with its unruly inhabitants to surround the home of the king. The fortification was as much against the Londoners as to protect them from armies on the outside.

It is of interest to recall various descriptive words and derivatives of the names of some of the old London institutions, for example, "bedlam" from St. Bethlehem hospital for the insane, founded in 1297. The word grocer, adapted from engrosser, or wholesale dealer who used the gross weight dates back to the association of the apothecaries and the grocers who separated in 1617. The apothecaries guild, handling medicines and articles of light weight and great value, used the troy pound of 12 ounces.

*Address in Surgery before the Southern Minnesota Medical Association, January, 1919, Mankato.

St. Bartholomew's, a hospital of great traditions, was founded in 1123, and yet is too young to have a place within the walls of the ancient city of London. Guy's Hospital, St. Thomas' Hospital, the London Hospital, and scores of others have been producing centers of medical science and art for hundreds of years.

The Royal College of Surgeons of England, established in 1800, is not so old as the Royal College of Surgeons of Edinburgh, which was founded in 1505 and which signifies its origin by grant from Henry VIII by using the flat cap which he wore, as part of their academic uniform. Those marvelous specimens numbered in black, and put up by John Hunter's own hands, which have been exhibited in the Museum of the Royal College of Surgeons of London for more than a hundred years, form one of the collections there which has given England one of the foremost positions in the medical sciences for more than a century.

There are many lesser hospitals in London not so old as those I have named, yet much older than any other hospitals in the world, in which special diseases are treated. The Good Samaritan and the Women's Hospitals are examples which have their counterpart in the various women's hospitals in this country. St. Peter's Hospital, devoted to the treatment of stone in the urinary bladder and other urinary diseases, has long been the center of the Urologic School of Surgeons of Great Britain. It is there that Freyer and Thomas Walker work today. The new Brady Hospital in Baltimore, under the able leadership of Hugh H. Young, is the American expression of the same idea in urologic surgery.

Among the most unique and interesting of these pioneer special hospitals, and the only one of the kind with which I am acquainted, is St. Mark's Hospital, founded in 1835, and built for the treatment of fistulas and other diseases of the rectum exclusively. It was here that the great Allinghams, father and son, worked and practised the ligature operation for hemorrhoids. Fistula in ano has been well treated at St. Mark's Hospital for more than forty years. Facts that were known to those working at St. Mark's were apparently given little publicity outside. There have been many different operations for fistula; some of

them, especially those used in vesicovaginal fistulas on the general plan of the Whitehead operation and so ably developed by Elting and C. H. Mayo, have been of great value. But for the "common every day" fistula in ano simple successful operations appeared to be forgotten. Any one who has had experience in such cases will remember the humiliation of his own many failures and the number of patients he has seen with incontinence from paralyzed muscles, strictures, and scar tissue lying out along the rectum, all of which were results of surgical interference which not only did not cure but also left a condition more distressing and more difficult of correction than the original fistula.

Many years ago I was so fortunate as to become acquainted, by personal observation, with the methods introduced in St. Mark's Hospital for the repair of fistula in ano, and as a result I can look back on a most satisfactory experience with this particularly annoying variety of infirmity. Edwards,* in an interesting communication, credits Goodsall with most important observations regarding fistula in ano. Goodsall states that if a line were drawn transversely through the middle of the anus, all the fistulas lying anterior to that line would pass directly from the external skin opening to the internal opening inside the anal canal, and that all the fistulas posterior to that line would have their internal opening in the midline of the anal canal, posteriorly, no matter where or how many lateral openings, the so-called horseshoe fistulas, are present. In the anterior fistulas, therefore, the external opening will be found opposite the internal opening. An anterior horseshoe fistula, as Edwards remarks, is practically unknown. The cause of the curved or angular shape of the posterior fistulas, the external openings of which lie laterally and lead by a crooked passage to the internal opening posteriorly, is the arrangement of the coccygeal ligaments and muscle which protect the external tissues lying in the midline posteriorly and direct the pus laterally; the so-called horseshoe tracts and openings are thus formed. It is true that one sometimes meets with very superficial fistulas in which the internal and external openings are in the same line posteriorly, but in such

*Edwards, F. S.; *Fistula in ano*. *Lancet*, 1918, **cxev**, 673-674.

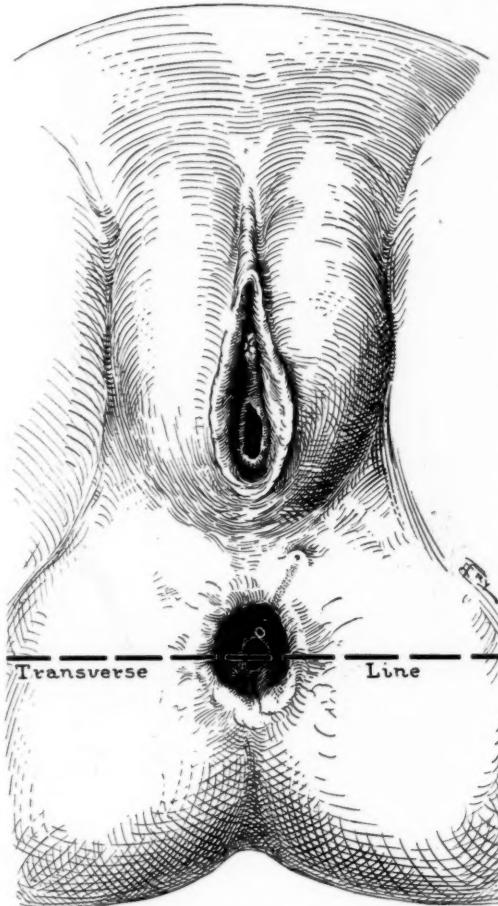


Fig. 1.—Fistulas lying anterior to the transverse line; passing from the cutaneous surface directly to the mucosa.

instances the internal opening is external to the sphincter ani just under the mucosa.

The cure of the anterior fistula is quite simple. With the finger in the anal canal and the thumb outside, the induration of the fistulous tract may often be felt. A grooved director may be passed from the external to the internal opening. The tissues, including the muscle, are split through the fistulous tract, thoroughly curetted, and a small piece of iodoform gauze tucked in, so that the trough shaped opening will be compelled to heal from the bottom. Occasionally I have excised the fistula completely and stitched it up satisfactorily.

The treatment of the posterior fistula, which is the troublesome one, consists of carefully

following the one or more external openings to the midline posteriorly, where the fistulous tract leading to the internal opening just above the external sphincter will be readily exposed. This is then split through, and the incisions made by following the lateral fistulous tract are joined. After the use of the curet, if the fistulous tract contains much thick scar tissue, the posterior wall of the tract is split to let the blood supply come through. The tract is dressed, similarly to the more simple anterior fistulas, with a strip of gauze, which, however, must be replaced once or twice in the case of extensive fistula to insure that no area of granulation tissue becomes buried. It is not necessary to cut the external sphincter more than at one point, and by no means should the mucous membrane of the rectum be split over the pockets lying above the internal opening. These pockets should be gently curetted and a little piece of gauze introduced: this may be removed in forty-eight hours, and no further packing need be used. If the mucous membrane covering these rectal pockets is split, it often leaves a very troublesome sensitiveness, due to the scar tissue.

At King's College Hospital, in 1862, Henry Smith originated the clamp and cautery treatment for hemorrhoids, a method we have used in hundreds of suitable cases with the utmost satisfaction. It is more than 20 years since I found out how to do the clamp and cautery operation properly by reading in the London Lancet an acrimonious discussion, carried on between Allingham and Smith. Allingham had misinterpreted the description of the clamp and cautery operation, and, after an experience with it as misinterpreted, he had condemned it. Smith denied being the criminal who had described the operation that Allingham had attributed to him; the only wonder to him was that Allingham had not killed more of his patients. Smith then explained why, in doing the hemorrhoid operation with the clamp and cautery, the pile should not be trimmed away with the scissors, because, if the eschar pulls apart, the cut artery, which is most resistant, will bleed as Allingham had described; the pile, Smith stated, should be slowly converted into an aseptic eschar, protected by the desiccated tissues, and the bac-

teria and the hemorrhoid destroyed at the same time. Smith described also how the veins pass downward anteriorly and laterally so that it is seldom necessary to clamp more than in three places, and stated that there should be a half inch of sound mucous tissue between each group of vessels destroyed by the cautery in order not to leave a possibility of stricture. Smith also called attention to the technic of stretching the anal muscles; they must be gently stretched and not lacerated or torn in the dilatation, and thus produce nerve injury and scar tissue deposit. The tube and the pack to lead off the gas is unnecessary; as a matter of fact, it had usually been introduced for fear of hemorrhage because the pile had been cut away before being cauterized, rather than for the object ordinarily ascribed to it. Attention was also called to the necessity of not using the clamp and cautery except in operating on internal piles; external piles and tags should be cut away and the skin defect sutured.

An excellent and most satisfactory laxative for use in cases of wounds and injuries about the rectum, such as those following operations, especially for hemorrhoids, was one prescribed by Van Buren in 1866.*

I trust that this rambling account of a few of the many interesting hospitals of London may help to call to the attention of American surgeons the benefits to be derived from a visit to the medical institutions of the British Isles.

*Magnesii Sulphate,
Magnesii Carbonatis,
Potassii Bitartratis,
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Sig. two drams more or less as needed at night with glass of milk or water.

DISCUSSION

DR. ARCHIBALD MACLAREN, St. Paul: I have enjoyed this paper very much, indeed. I have always wondered why it was that before the war so many American inventions and scientific ideas had been appropriated by the Germans. I wondered whether I had been mistaken, but as I went down the line, things I knew all about, without the slightest doubt Germany had appropriated and discovered them years after they had been known and described in this country, and we could not help but resent it. Now, we know what their ideas were, and as Dr. Mayo has said, it is doubtful whether many of us will ever go to Germany again for our post-graduate instruction in the years to come. I do not see how any of us could.

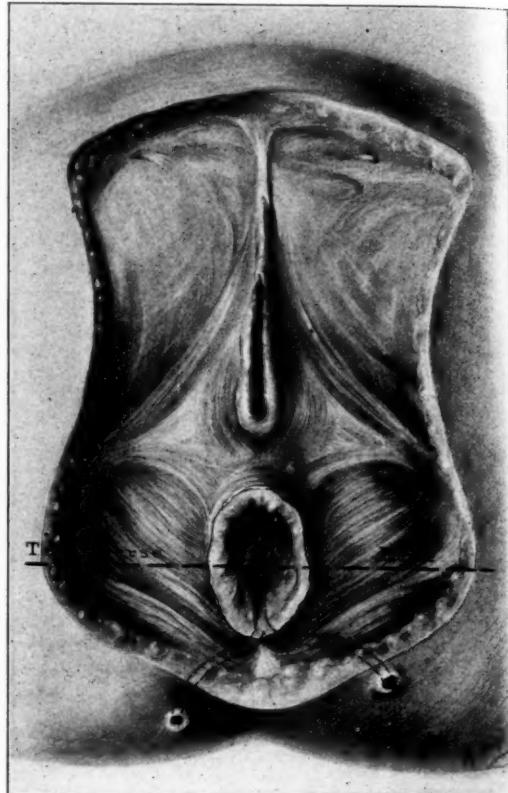


Fig. 2—Only one internal opening in the midline, posteriorly; there may be several external openings.

My recollection of the old hospitals of London is not very clear. I remember very well, however, taking Dr. Fred Lund, of Boston, to his first clinic at Guys Hospital. Dr. Lund is now one of the celebrated surgeons of the world. At that time he had not decided whether he would study medicine or not. He had just completed his course at Harvard, and was one of the international sprinters of the collegiate world. Whether that experience at Guys Hospital induced him to practice medicine or not I have never known. But I remember the pleasure I had in seeing these old hospitals and of being much impressed with the fact that they were much behind American hospitals in many ways, especially the things we all knew so well. But they had that sound foundation and character that Americans most admire, and we as Americans have derived much information from the English surgeons in the last few years.

The ulceration in the mid line of the posterior part of the rectum is very important, and I can look back on several very wretched results because I had not appreciated the importance of not splitting the mucous membrane over the pockets on either side. With the treatment of hemorrhoids I had much the same experience. I followed Allingham's description of his

operation and wondered why under the sun I had so much trouble with the cautery. Not until I saw Dr. Mayo do the operation properly did I understand why there was so much hemorrhage and so many serious results following the clamp and cautery operation after the method of Allingham. From Dr. Mayo's description, Allingham had not described the operation properly. About that time I began doing the hemorrhoid operation simply with catgut, ligating the central vessel and stitching the mucous membrane over it, and I have done a great many of those operations with no bad results, with one exception. In the last case, on which I operated for hemorrhoids, after cutting off the hemorrhoid and stitching it up, there developed pulmonary embolism from which the patient died. The same result will follow occasionally a hemorrhoid operation whether you use the clamp and cautery or the suture.

DR. MAYO, (closing): My first object in presenting this paper is to call attention to what may be seen in the way of sound surgery in the hospitals of London. I did not say much about the provincial hospitals because, as Dr. MacLaren has said, the hospitals in the City of London, until within the last five or six years have not been as good as the hospitals in the provincial cities.

My second object is to bring the technic of the operation of fistula in ano and of hemorrhoids before the association since so many practitioners do these operations. When we go to general medical society meetings we should bear in mind that that a considerable number of men do a certain amount of surgery, and we should not present work to them that only specialists can do, but rather something they can do themselves.

In the third place, and this is extremely important, we have in the past entertained the idea that we must follow Germany in the matter of investigation and research and that the problem must be made as abstruse and dull as possible, such for instance as writing two volumes on the fibrillary contraction of the embryonic frog's heart. We have over idealized the Germans in the belief that they were great because they devoted so much time to this involved style of writing on topics pertaining to the future but with little bearing on the present.

I believe there are opportunities for research in every day diseases which are now largely neglected because we have been striving, in accordance with the German propaganda, to do the things that were very hard to do without fully realizing that they did not amount to much when they were done, and that a lot of valuable time, which might have been better employed, had been wasted.

There are a lot of every-day problems that should be discussed in a general meeting of this character. For instance, the results of operations on varicose veins, or ulcers of the leg, and the various pathologic conditions which we encounter in day by day practice. It seems better to devote more time to week-day diseases and week-day surgery and not to trouble ourselves too much with holiday or Sunday diseases outside of special societies.

HISTORY OF BASE HOSPITAL NO. 26

LT. COL. A. A. LAW, M. C.
Minneapolis, Minn.

During the summer and fall of 1916, in anticipation of the time when the need might be acute, the United States Government decided to organize through the medium of the American Red Cross, fifty Base Hospitals; these hospitals were to have as a mother or parent institution, a large representative hospital or medical school, which would be their sponsor and from which their staff would be recruited.

As originally projected, the hospitals were to be formed for 500 beds, to have twenty seven administrative and medical officers, sixty nurses and 153 enlisted personnel. They were to be equipped with all the things needed by a modern hospital and the money for the purchase of this equipment was to be raised by private subscription. After the hospitals were organized and equipped, they were to be held in reserve as Red Cross Hospitals until such time as the Government might need them when they were to be taken over by the Army and automatically were to become Military Hospitals, their personnel having been previously mustered into the United States Reserve Corps.

The surgeon general asked Dr. W. J. Mayo to organize such a hospital around the Mayo Clinic; Dr. Mayo believed, however that the project was one for the University of Minnesota to sponsor and so indicated. He and Dr. C. H. Mayo promised to co-operate in every way, they subscribed half of the original \$30,000 deemed necessary to outfit the hospital and recruited from their clinic or from its graduates, ten medical officers and a like proportion of nurses and enlisted men; the rest of the officers, nurses and men were recruited from the University of Minnesota or the Northwest.

Having had previous service in the Spanish American War and the Philippine insurrection as a medical officer, Dr. Arthur A. Law, associate professor of surgery of the University Medical School was chosen as "Director" to organize the hospital.



Wounded being carried from Hospital train to Base Hospital 26

On April 15, 1917, having received telegraphic instructions from Colonel J. R. Kean, Director general of military relief of the American Red Cross, the organization of Base Hospital 26 was started. The Drs. Mayo, having given \$15,000 for equipment, the patriotic citizens of Minneapolis raised a like amount, later far more was donated either as money, ambulances, motors, tools, dental supplies, surgical dressings, etc., bringing the total expenditure close to \$60,000; with these resources a very complete equipment was purchased by the purchasing agent, Dr. L. B. Baldwin. Many public spirited merchants sold their wares at practically cost to themselves.

The original corps of officers from the University included Majors Law, White and Staley; Captains Reed, Morrison, Zimmermann, Beard, Baron, Thomas, McGibbon and MacDougall; Lieutenants Clark, Smith, Klingen and Snodgrass. The Rochester officers were Major Moore; Captains Mussey, Rankin, Hayes, Berkman, Bissell, Moore, Fisher, and Lieutenants Szlapka and Melson. Bishop Wm. P. Remington was chaplain. Practically all of the officers received well merited promotions before leaving France, while six of the non-commissioned officers, were made first and second lieutenants in the sanitary corps; these included Shepard, Wash, Driscoll, Morgard, Gilespie and J. F. Shay.

Of the enlisted personnel, many of the non-commissioned officers had been trained on the Mexican border, in regular or National Guard organizations, while eighty per cent of the corps were college men and twelve were senior medical students; this corps represented ten per cent of 1,500 applicants for enlistment, they were a volunteer corps, unusual in their high order of intelligence and ability. The homes of most of the men were in the Twin Cities, Rochester or neighboring towns in Minnesota or adjacent states. The nurses, recruited by Miss Annie Gosman, chief nurse, as well came from the same locality, all were volunteer Red Cross or Army nurses and most of them were graduates of local hospitals.

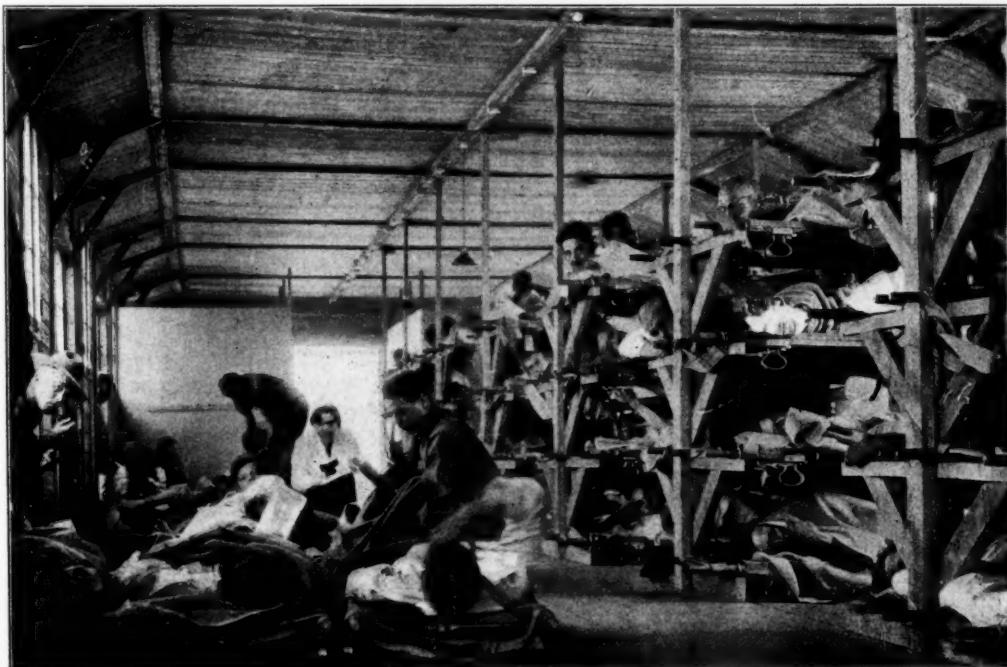
On June 12, 1917, the hospital was reported to the War Department as fully equipped and ready for service. December 13, 1917, Base Hospital 26 was ordered mobilized in Minneapolis, the corps was quartered on the University campus in Millard Hall of the Medical School and in one of the engineering buildings. December 28, 1917, the corps boarded a troop train and went to Ft. McPherson, Atlanta, Georgia, where Colonel J. H. Ford, of the medical corps of the regular Army took command. While in Atlanta "Unit V" of Dallas, Texas, was assigned to Base Hospital 26; this Unit consisted of ten officers, twenty-three under command of Major Lott, which as well was a volunteer organization of picked

men and women. Here for nearly five months they received intensive training in the duties of hospital administration and those of sanitary soldiers. May 17, 1918, they were ordered to Camp Merritt, New Jersey, and on June 4th Base Hospital 26 sailed from New York on the British ship "Adriatic" in company with eight other transports, convoyed by the British cruiser, "Leviathan." The day before they sailed, German submarines had appeared in American waters and sunk fifteen small vessels off the American coast.

The camouflaged transports put out of New York harbor and to sea with a remarkable escort of scores of sub-chasers, destroyers, a cruiser, five hydroaeroplanes, a dirigible, anchored balloons on shore and a balloon towed by a destroyer; this convoy left sometime during the night, only the cruiser remaining to lead a zig-zag course almost to Iceland, then south to the north coast of Ireland where two days out from Liverpool nine tiny British destroyers appeared over the horizon, one after another, picked us up and convoyed us to Liverpool, through the Irish Sea. By troop train the hospital was taken across

England to Southampton and from there across the channel at night and landed at Le Havre, June 18th, just two weeks after leaving America. Here we were joined for the first time by our nurses who sailed in the same fleet but on a different transport and now, altogether we started on a French train for our station at Allery, Soane et Loire. Two days later at Navarre, our nurses were detached and sent back to Blois, forty of the hundred being permanently detached, never to join us again.

Arriving in Allery at the end of three days on a troop train, we found a vast "Center" in the building—a center projected for ten Base Hospitals and convalescent camp for 5,000 men. The ten units for the Base Hospitals were uniform in their layout and physical characteristics. The buildings were of the barracks type, built of sections made in Switzerland and were called Cavanar Barracks. There were fifty-three buildings in Base Hospital 26, twenty being great wards, the rest were storehouses, kitchens, dininghalls, baths, latrines, barracks, quarters for the personnel, officers and nurses, dispensaries, surgical and



Receiving Ward of Base Hospital 26 on a day in August when we received 1000 wounded

X-ray pavilions, laboratories and morgue, receiving ward and administration building. Most of the wards were supplemented by three large tents, placed end to end, directly behind the ward—the bed capacity of each ward with its tents was 118, the bed capacity of the whole hospital was 2,078. This was administered by thirty-eight officers, 100 nurses, 250 enlisted men and seventy-five French civilians.

When we arrived in Allerry, a tiny French village, adjacent to the great city of hospital buildings, the United States Engineers and civilian contract labor were hard at work on the Center. Our section, No. 2, was but fifty-eight per cent completed so it became necessary for the personnel to help build our own hospital; this we did, our highly specialized corps men working on the buildings, roads, ditches, plumbing, sewers, wiring, etc., where ever possible helping the engineers in their stupendous task, for we knew this hospital was sadly needed for wounded men.

Of supplies, aside from beds and bedding, ranges and kitchen utensils, there was almost nothing, all we had was the very simple so-called "crisis expansion" outfit which came with the tents. Need ever stimulates invention so the resourceful corps built out of biscuit tins, tubs, sinks and distills, out of roofing material and lumber, bathing slabs; out of empty barrels, a sterilizing plant, while refrigerators were improvised from gunny sacking stretched on frames and kept wet by dripping water. Furniture was made from rough lumber, laboratory utensils from tobacco tins, a hundred and one like ingenious improvised makeshifts tided over the time of need.

Colonel Ford was detached and assigned to the command of the Center so the Director, Major Law, later promoted to lieutenant-colonel, took over the command of Base Hospital 26. Sixty per cent of our own nurses were returned to us on July 4, 1918, and others were assigned from different organizations.

Several operating teams, each composed of a surgeon, his assistant, three nurses (one an anesthetist) and two corps men, were organized—these teams were early sent on observation tours to various evacuations and base hospitals and after July 15th, some of them were always in the advance zone, oper-

ating in evacuation, field or camp hospitals. These teams were rotated so they all had an opportunity to work at or near the front.

On July 23, 1918, long before we were ready to receive them, 400 wounded men were sent to us. Our equipment still consisted of the above mentioned "crisis expansion" outfit so if we were to properly care for these men, supplies must somehow be procured.

The Red Cross at Paris was solicited and later responded nobly with two carloads of dressings; in the meantime officers were sent to all the surrounding cities, Dijon, Lyons, Chalon and Beaune where they bought up drugs, dressings, rubber tubing, sutures and anything they could get to aid them. Our own carpenters and metal workers made fracture frames and metal splints and improvised such orthopedic apparatus as was needed. Before we left the States, the loyal, generous friends of the hospital had given us from time to time, sums of money to be used in just such an emergency; this was called the "contingent fund" and all together totaled \$24,000. This fund made it possible to buy the supplies so badly needed, without which the wounded could not have been cared for properly. This contingent fund repeatedly stood between us and actual want and always helped increase our efficiency. Early in August, our own hospital supplies arrived from overseas and we were then equipped as few hospitals in France were with every modern agent needed for diagnosis and treatment of the sick and wounded.

As the great July and August offensive progressed, we rapidly filled our 2,100 beds, one day receiving 1,000 wounded, on another 600, all brought to the Center on the splendid American, British or French hospital trains, most of the patients having already been through the evacuation hospitals at the front and reaching us in from eighteen hours to four days from the time of being wounded.

Other base hospitals were arriving by now, No. 25 from Cincinnati, No. 49 from Omaha, Nos. 56, 70, 97 organized at large, Evacuation 19 operating as a base hospital, while from the staffs of all the hospitals, Provision No. 1 and No. 2 were organized as an emergency. A convalescent camp under canvas for 5,000 men was also functioning. Quar-

termaster, bakery, military police, transportation and stevedore companies arrived as did an Italian labor battalion, all of which including the sick and wounded made the Center a city of 25,000 souls.

Base Hospital 26, being the first on the ground and the first equipped, was designated as a surgical hospital and received for the first two months the major surgical cases; other hospitals were designated as Centers for contagious, venereal, nervous and mental, eye and ear cases and their staffs were reinforced to handle the specialties designated. As the war progressed, the number of casualties increased until we were obliged to convert the Red Cross buildings and some of the dining rooms into wards to care for the great influx of wounded and sick, so to the day of the signing of the armistice, November 11th, Base Hospital 26 and all the rest of the Center worked to the limit of their capacity for the relief of sick and wounded soldiers. Our own casualties consisted of the loss by death of Lieutenant Klingen and by discharge for disability of Lieutenants Smith and Carlysle.

After the armistice, the hospital was rapidly evacuated, many officers, men and nurses were detached for special duty elsewhere, some of the senior officers including Lieutenant-Colonel Law, Majors Moore and White, Captains Morrison and Zimmerman, were ordered home.

On January 7th, 1919, the Hospital received its preliminary orders to prepare to return home; it turned in its property and packed up to leave Allery. It did not leave, however, until March 5th, when it was sent to Nantes, there to be held until ships were available.

In returning to the United States the Unit was split up, the nurses sailing on one ship, fourteen officers on another, while Major Rankin and three officers brought the men home on still another, each detachment landing at a different home port late in April.

Many of the corps elected to remain abroad with the Army of Occupation; others receiving their discharge to enter the Red Cross or to go to the Universities in France, England and Scotland.

The hospital itself splendidly fulfilled its developmental intent, through its wards passed 7,200 sick and wounded men. With its fine

equipment, its devoted doctors, nurses and corps men, each and every one having done their full duty, the hospital made an enviable record in the A. E. F. and was an important factor in relieving the suffering of thousands of soldiers it was privileged to serve. In successive wars, the gallant soldier sons of the State of Minnesota have graven a proud record on the tablets of history; now this great hospital voyaging across the seas on its errand of mercy has added new laurels to those won by sons and daughters of earlier wars.

RESULTS OF THE SURGICAL TREATMENT OF SPINAL CORD TUMORS.*

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Too frequently patients suffering from a spastic paraplegia are given a diagnosis of transverse myelitis, sclerosis or lues without a thorough neurologic examination, and thus are deprived of surgical treatment. Sir Victor Horsley, in 1887, was the first successfully to remove a spinal cord tumor (a fibromyxoma). Since then our information concerning such tumors and allied lesions has increased materially. The surgical technic has improved and the mortality has decreased, but the prognosis will become more favorable as we learn to make earlier diagnoses and become more capable in differentiating spinal cord tumors from non-surgical lesions.

I am presenting herein a series of sixteen cases for the year 1917 in the Mayo Clinic in which laminectomies were done for spinal cord tumors. The cases represent fairly well the ratio of cord tumors to allied conditions, and the results accomplished by surgical treatment.

The history of patients with spinal cord tumors is not always constant, but it is suggestive and gives the first clew to the possibilities of such a lesion. The onset of symptoms is gradual, usually beginning with sensory disturbance, that is, paresthesia or anesthesia, accompanied by motor disturbances. The condition may improve but soon relapses, and the

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symptomatology is gradually progressive with a loss of sensibility and motor function in association with exaggerated reflexes below the cord level. The rapid progress of the disease depends on the position and the type of the tumor. The soft neoplasms, and neoplasms of the intramedullary type usually follow a very slow course, while the hard, encapsulated tumors producing considerable pressure, cause a marked paralysis in a few months, with much more permanent damage to the cord than is caused by the softer tumors. Tumors pressing dorsally on the cord will produce sensory changes before motor disturbances appear. Those situated laterally or anteriorly will more likely produce a Brown-Séquard's syndrome with motor disturbances.

All patients with a suspicious history should be given a thorough neurologic examination, as diagnosis depends on such findings. The reflexes are disturbed in the region of the lesion, and are increased below.

Tumors of the spinal cord arising from the vertebrae or the meninges situated extradurally or subdurally, produce pressure on the cord without invading it. Those arising within the cord itself produce a destruction of the grey matter and later a destruction of the medullated fibres. Such tumors may appear in any portion of the vertebral column or spinal cord; a greater number occurring in the thoracic region, than in the cervico-dorsal and the dorso-lumbar regions, respectively.

The pathology of these tumors varies considerably, but depends directly on their origin. Those arising from the vertebral column will be of a type that comes from bone and fascia, and those arising from the meninges will be endotheliomas, fibromas, psammomas, etc. Such tumors, as a rule, are not very large; they are slow in their growth, and while a certain number are malignant, the larger percentage are benign, which favors an ultimate cure if removal is effected in time. Before discussing the results of operation I shall present the history of an illustrative case:

Case (A-211097), W. A. M., a male, aged 30 years, came to the Mayo Clinic October 14, 1917, complaining of inability to walk. The patient had had diphtheria and scarlatina when a child, la grippe occasionally, and tonsillitis in January of 1917, and in February he noticed difficulty in walking and in con-

trolling his legs. This condition gradually grew worse until June, when he was unable to get about without assistance. He consulted a physician, and it was found that he had lost sensation in the left leg, and that the right knee jerk was greater than the left. When he presented himself at the clinic he had a great deal of difficulty to stand with the assistance of crutches. There was an absence of sensation in the feet. The cranial nerves and the spinal nerves down to the sixth dorsal segment were negative, but below this point there was a definite loss of pain, tactile and temperature senses though it was not complete in the first two segments. Reflex findings were: epigastrics—4 on a scale of 4; abdominal reflexes—4; cremasterics on both sides—4; hamstrings on the right inner—3; outer—4; left inner hamstring—2, and the outer normal. The knee jerks on the right were exaggerated 2 on a scale of 4, the left were normal; the Achilles were normal on both sides; in the plantar only a slight response; doubtful Babinski signs on both sides and Oppenheim and Gordon signs both negative.

The patient went home for a few days and returned on the twenty-ninth of the month with a slight exaggeration of symptoms and with less ability to walk; he was unable to stand with the aid of crutches and had to resort to a wheel chair. The blood Wassermann and the spinal Wassermann tests, the Nonne test, and X-ray of the dorsal spine were negative. In view of this history we felt that there was a slight possibility of a chronic meningitis, but inasmuch as the patient presented a definite cord level, we advised exploration of the sixth dorsal segment. October 31 a laminectomy was performed, and the spines and lamina of the fourth, fifth, sixth and seventh dorsal vertebrae were removed. The dura was opened, exposing a large tumor situated subdurally but extramedullarily over the right lateral and dorsal portion of the cord opposite the fifth and sixth dorsal vertebrae. The tumor which was about one inch in width and thickness, one and one-half inches in length, and firmly adherent to the dura, was enucleated with very little difficulty and found to be a psammoma. The post-operative convalescence was uneventful and rapid, and in twelve days the patient was able to stand supported by his crutches. At the end of three weeks, he was able to walk with the assistance of one cane, and from that time until December 20th, improvement was so rapid that he could go back to his regular work. There was a marked improvement in the sensory changes, as well as a definite return of the motor function. The patient was examined February 2, 1918, at which time all sensations had returned, except over the sacrum and in the region of the scar. The disturbance over the sacrum was extremely slight, 1 on a scale of 4, and the motor function was normal. Since then the patient has been drafted and has passed his physical examination, as fit for army service. He is, however, carrying on his regular work, as we believe it advisable for him to defer his service in the army for at least six months.

RESULTS OF THE SURGICAL TREATMENT OF SPINAL CORD TUMORS

Case	Age	Sex	Neurologic Diagnosis	Surgical Findings	Location	Level	Duration of illness	Recovered	Improved	Unimproved	Death	Remarks
Mr. W. A. M. 211094	10	M	Spinal cord tumor	Psammoma	Subdural but extramedullary	Thoracic	10 mos.	Yes	—	—	0	Rapid improvement.
Mrs. C. A. 264432	57	F	Spinal cord tumor	Psammoma	Subdural but extramedullary	Thoracic	2 yrs.	Yes	—	—	0	Rapid improvement.
Mrs. W. M. 190590	40	F	Spinal cord tumor	Glioma	Subdural but extramedullary	Thoracic	3 yrs.	—	Slight blad- der control	—	0	Slow improvement. Had Cystitis.
Mrs. J. B. P. 207649	45	F	Spinal cord tumor	Psammoma	Subdural but extramedullary	Cervico Thoracic	3 1/2 yrs.	Yes	—	—	0	Moderately rapid improvement.
Mr. C. L. 199461	35	M	Spinal cord tumor 50% Myelitis 50%	Psammoma	Subdural but extramedullary	Thoracic	7 yrs.	—	Slight blad- der control	—	0	Slow improvement.
Mr. W. D. 201297	45	M	Spinal cord tumor	Fibroma	Subdural but extramedullary	Cervical	3 yrs.	—	Marked 10 mos. Relapse	—	0	Reoperated. Pressure on cord due to developing lordosis.
Mrs. S. E. D. 201513	55	F	Spinal cord tumor	Psammoma	Subdural but extramedullary	Dorsal	2 yrs.	—	Marked	—	0	Rapid improvement.
Mrs. T. E. Y. 208580	42	F	Spinal cord tumor 75% Myelitis 25%	Angio-neuroma	Extradural	Dorsal	6 mos.	—	Marked	—	0	Slow improvement.

8 Tumors removed in 1917:

- 5 Psammoma
- 1 Glioma
- 1 Ongioneuroma
- 1 Fibroma

Three patients recovered; 2 were markedly improved; 1 slightly improved; 1 markedly improved for ten months and then relapsed and was reoperated on. A compression of the cord was found due to a developing lordosis.

RESULTS OF THE SURGICAL TREATMENT OF SPINAL CORD TUMORS

Case	Age	Sex	Neurologic Diagnosis	Surgical Findings	Location	Level	Duration of illness	Recovered	Improved	Unimproved	Death	Remarks
Mr. J. J. O. 170611	29	M	Spina. Jiro tumor of lues. Gumma	Angioma	Intramedullary	Dorsal-Lumbar	10 mos.	—	Marker 85%	—	—	Improvement slow.
Miss G. H. 202523	21	F	Spinal cord tumor 50% Myelitis 50%	Intra-med. fibroma	Intramedullary	Cervico Thoracic	Onset 7 yrs. marked 1 yr. marked	—	Slight blad- der control	—	—	Improvement slow.
Mr. A. W. E. 150521	41	M	Spinal cord tumor	Intramed. tumor	Intramedullary	Cervico Thoracic	Onset 8 yrs. marked 18 mos. marked	—	Slight blad- der control	—	—	Improvement slow.
Mrs. M. 206210	32	F	Spinal cord tumor	Unilat. Inflamm. mass	Intramedullary	Dorsal-Lumbar	18 mos.	—	—	Yes	—	Drainage of spinal fluid.
Mr. C. C. 210045	40	M	History of lues with local signs	Gumma	Intramedullary	Dorsal	18 mos.	—	—	Yes	—	
Mr. J. R. W. 182126	46	M	Spinal cord tumor	Meningo-myelitis	Intramedullary	Dorsal	12 mos.	—	—	Yes	—	
Mr. B. 181084	31	M	Spinal cord tumor. Syringo- myelia.	Meningo-myelitis	Intramedullary	Cervico Thoracic	12 mos.	Yes	—	—	—	
Mr. M. O. B. 186135	31	M	Chronic mening. cord tumor. History of mening. 9 yrs. ago.	Meningo-myelitis	Intramedullary	Cervical	Onset 9 yrs. 1 yr. marked	—	—	—	Yes	Death 30 hours after operation. Fat embolism.

Two intramedullary tumors: 1 angioma or varicose veins of the cord; 1 unilateral inflammatory tumor; 1 gumma of cord and membranes; 3 meningo-myelitis. One meningo-myelitis unimproved; 1 meningo-myelitis improved; 2 intramedullary tumors slightly improved; 1 with inflammatory mass unimproved; 1 gumma unimproved; 1 meningo-myelitis died.

SUMMARY OF RESULTS OF THE SURGICAL TREATMENT OF SPINAL CORD TUMORS.

Laminectomy with exploration of cord	Recovered	Greatly improved	Slightly improved	Unimproved	Return of trouble	Death	Total
Tumors removed.....	8	3	2	2	—	1	0
Tumors not removed but decompressed	5	1	2	2	—	—	—
Meningomyelitis	3	1	—	—	1	1	—
Total	16	4	3	4	3	1	1

Percentage of tumors located 83.6; of tumors removed 61.7; of patients recovered 25; of patients greatly improved 18.75; of patients slightly improved 25; of patients unimproved 18.75; of mortality 6.25 per cent. Total percentage of patients improved 68.75; of patients unimproved 31.25.

Operation

The usual type of laminectomy is done through a dorsal midline incision. The spines and laminae, are exposed subsequently removed, since we follow the practice of removing three or four spines and laminae before opening the dura. After controlling the bleeding and exploring the cord, the tumor is removed by gentle manipulation, while extreme precaution is taken not to injure the spinal cord or its nerve roots, or to cause unnecessary bleeding. It is true that a two-stage operation is indicated in a definite percentage of cases, particularly in patients having intramedullary tumors, but if the operative procedure has not been prolonged over an hour or an hour and a half, the operation can be completed in one stage. The dura is closed completely with interrupted sutures of silk; the muscles are closed with two strands of chromic catgut; the fascia with a similar suture; the subareolar tissue with a single strand of plain catgut, and the skin by a subcuticular suture. No drainage is used unless it is necessary to control bleeding with a little pack of gauze. Following the operation, the patient is kept in the prone position on several pillows with the head lower than the spine for a period of from thirty-six to forty-eight hours, after which he is permitted to lie on his side but with one pillow under the trunk, so as to keep the head lower than the line of laminectomy for three or four days. This prevents undue pressure on the suture-line by the cerebrospinal fluid. Occasionally, a little stimulation is necessary but usually nothing more than a rectal saline. Further post-operative treatment depends on the condition of the patient.

He is kept in bed for ten days and then permitted to get up for short intervals until he is able to be kept about in a wheel chair. No special splint or dressing is applied on account of the removal of spines and laminae; we believe, however, that the usual laminectomy should be reinforced in cervical cases, as one of our patients returned with a developing lordosis and compression of the cord. Following the operative treatment, we urge the use of massage and passive motion of the affected extremities. The various methods of using electricity offer very little to commend them.

In reviewing our results from the surgical treatment of spinal cord tumors, it was found that sixteen laminectomies have been performed in cases in which exploration was deemed advisable. A clinical diagnosis of a definite spinal cord tumor or a questionable spinal cord tumor had been made. In 13 of the cases we localized spinal cord tumors or inflammatory masses which produced pressure such as that produced by a spinal cord tumor, and 8 of the number were removed. One of the tumors was an angiome, situated extradurally; the remaining 7 (5 psammomas, 1 glioma, and 1 fibroma) were situated subdurally but extramedullarily.

Results of Operation.

Three patients recovered after the removal of the tumors, 2 have improved to such a degree that they are able to take up their regular work, although there still is some weakness in one of the extremities. Two are slightly improved; they are able to control bladder and bowels, but are unable to work or go about. One patient improved markedly for ten months and returned to his regular duties, but he had a return of symptoms, and on recent examination and re-operation, we found a lordosis with compression of the spinal cord. There was no recurrence of a tumor but many adhesions had formed and destruction of the cord itself had taken place at the lower part of the curve. This apparently was due to the lack of support, as the cervical vertebrae had separated and slipped forward. The prognosis at this time, naturally, is very poor, even though the patient's convalescence has been uneventful. Improvement always takes place rapidly and recovery is more complete and rapid in cases in which the symptoms have been of short dura-

tion and the paralysis has existed for less than a year. In the 5 cases in which we were unable to remove the tumors, we performed an extensive decompression and left the dura unclosed. Two were cases of intramedullary tumors, 1 a case of degenerative fibroma and the other was so necrotic that a diagnosis was not made. One patient presented a definite history of lues that had been treated without results; he also had a definite sensory level. In view of this, an exploratory operation was done and an angioma of the cord was found which we did not attempt to remove but merely ligated the vessels en masse. The patient has made a steady and progressive recovery, and at the present time is able to go about his regular work. A fourth patient in this group gave a definite history of a unilateral lesion, and on operative exposure a unilateral, infiltrating, inflammatory tumor was found. We were unable to remove the tumor on account of its extensive involvement in the cord itself, and unfortunately the patient has not improved. The post-operative convalescence was complicated by the opening of the wound and the drainage of cerebrospinal fluid on the ninth day. The drainage continued for a week but subsided without any particular treatment except that of placing the patient in the prone position over several pillows and lowering the head, strapping the wound together with adhesive strips, and the application of sterile dressings. In the fifth case of non-removable tumors, there was a definite history of lues nine years previously with a development of a spastic paraparesis and a definite sensory level. Because of our findings, and the negative specific tests, we advised an exploration. A gumma of the cord involving the meninges was found. Again, results were unsatisfactory.

In addition to the operations in the 13 cases of spinal cord tumors, we explored 3 cases in which the lesions were questionable, and found meningo-myelitis, with increased cerebrospinal pressure. The results in the 3 cases were as follows: One patient did not improve, and gradually became worse; the second patient recovered and at present is doing his regular work, and the third died on the second day with a typical picture of fat embolism. This was the only death in the series.

Summary of Results.

In the 16 laminectomies the removal of the tumor was effected in 8. Three of these patients have recovered; 2 have improved greatly, 2 have improved slightly, and 1 has a return of the trouble. There were no deaths. In the 5 instances in which the tumors were not removed, 1 patient was greatly improved; 2 were improved slightly, and 2 were unimproved. One of the 3 patients with meningo-myelitis recovered, 1 did not improve, and 1 died.

	Per cent
Tumors located at time of operation.....	83.6
Tumors removed	61.7
Patients recovered	25.
Patients greatly improved.....	18.75
Patients slightly improved.....	25.
Patients unimproved	18.75
Mortality	6.25
Total patients improved.....	68.75
Total patients unimproved.....	31.25

Conclusions.

1. Neurologic examination is essential in all spastic paraplegias.
2. If the patient presents sufficient signs of a cord tumor, he should be given the advantage of an exploration.
3. A certain percentage of patients who have had spinal cord tumors removed recover completely.
4. A large percentage improve greatly.
5. Although improvement is slight in some instances, an exploratory laminectomy is justified on the grounds that one is unable to say, prior to operation, whether or not the tumor is removable.

DISCUSSION

DR. A. W. ADSON, Rochester, Minn.: I wish to emphasize one point of importance and that is urinary retention. It is quite usual for practitioners to begin catheterizing patients as soon as they have urinary difficulty, which is a very common symptom in patients suffering from spinal cord tumors. Dr. Besley, in reporting a series of spinal cord injuries as a result of war wounds, makes the assertion that he has never seen a bladder ruptured from over-distention and his advice is never to catheterize a bladder. In patients with spinal cord tumors, we find that this same principle is always true, but in a few patients the pain from an over-distended bladder is so severe that we are compelled to relieve them by catheterization. Consequently, when it is necessary to catheterize such pa-

tients the catheterization is immediately followed by an irrigation of the bladder with 3 per cent boric acid solution or .5 per cent solution of silver nitrate. If there is some cystitis present, two drams of 20 per cent argyrol are injected into the bladder following the irrigation. This is left in the bladder until the next catheterization. In conjunction with this, we prescribe sodium phosphate and urotropin in doses of 7.5 grs. of each, and have the patient take the phosphate and urotropin at alternating periods of ten days each. The purpose of taking this extra precaution following catheterization is not so much to treat the cystitis as it is to prevent a cystitis, which, if present, frequently results in an ascending infection and becomes a serious factor in the ultimate cure of the patient.

HEMOLYTIC ICTERUS—A REPORT OF TWO SPLENECTOMISED CASES

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Looking back five short years we behold between the patient with pernicious anemia and a probable early demise ascending and descending drop doses of Fowler's solution—our total offering. To the patient afflicted with myelogenous leukaemia we gave iron pills and a solemn verdict of death within two years. A system disease we said—nothing to be done for you. To the unhappy victim of chronic hemolytic jaundice we gave the doubtful consolation of "what can't be cured must be endured."

Such were our offerings of five short years ago. Today, while we are still unable to give entirely satisfactory explanations for the relatively splendid results, in a high percentage of patients afflicted with one of the above diseases the fact remains that the results are revolutionary. The patient with pernicious anemia is carried over crisis after crisis into a remission period by repeated transfusions of blood from a suitable donor and when this simple procedure threatens to fail us if the case presents favorable aspects we have splenectomy to offer with prospects of at the very least a substantial remission. To staid and straight-laced internists and pathologists, the application of splenectomy to myelogenous leukaemia sounded like rank heresy. But the intrepid surgeon of this relatively unconventional middle west, who first applied this

remedy, has a faculty of seeing beyond the rules of the past—and he won. Today after preliminary reduction in the size of the huge leukaemic spleen by radium, splenectomy gives the patient a splendid outlook, to those uninitiated astounding. The victim of chronic acholuric jaundice is as if by magic made free of his unsightly icterus and his splenic burden by one stroke. So prompt and decisive are the results that splenectomy for the severer forms of this disease constitutes one of the most gratifying of surgical procedures.

Elliot and Kanavel in July 1915 in a review of the literature reported 48 splenectomies for hemolytic jaundice, including their own detailed case. From that date to the present, Friedman, Brewer, Larimore, Peck, Goldschmidt, Elliot, Hill and Griffin have contributed a total of 23 cases. Of these 23 cases Giffin reported by far the largest and best studied series. To this total of 71 I wish to add 2 making a total of 73 to date. The early operative mortality has been reduced from 16% to 4.1%—lower than in any other condition requiring splenectomy. Without exception in the 70 patients surviving the operation, the jaundice disappeared in from 3 days to 3 weeks. The anemia usually moderate, but occasionally severe, improved rapidly or more slowly but consistently without a recurrence except in 2 reported cases. Aside from these two all were reported recovered from 4 months to 27 years after the interference. A common complication was gallstones. Not infrequently did their presence, revealed by severe biliary crises lead to attack on the gallbladder erroneously regarded as the primary factor. Urobilin was present in the urine in all cases. Bilirubin never except transiently during an attack of stone colic. The stools were cholic. In a few cases the blood serum pigment content was studied. Bilirubin was found frequently; urobilin once only. Duodenal pigment studies were done quantitatively in 13 patients. By the spectroscopic method in 8 patients, including our two. Of the 8, 6 were studied both before and after splenectomy. The average preoperative values in Giffins' 6 patients was 3150 units, promptly falling to an average of 1425 units at varying periods after splenectomy.

The following brief reports cover our two patients:

Case No. 2499. Alice P., age 13, female, Scandinavian, was referred by Dr. Franzen, March 4th, 1918, with the leading complaint of periodic attacks of vomiting, weakness and epistaxis. Family history reveals no jaundiced members. Past history that of a normal, healthy childhood, with one mild attack of diphtheria at the age of seven. Up to two years ago there was no jaundice noted by her associates. Present illness began approximately 2 years ago with severe attacks of vomiting associated with extreme lassitude but no severe pain and followed by distinct jaundice. Weakness increased, food distress and distention followed gradually. One year ago and off and on since there has been epistaxis. During the past 3 months the vomiting has been more frequent and the jaundice deeper. Physical examination revealed a well nourished, jaundiced child, with no purpura. The liver was palpable at the costal margin; the spleen a hand's breadth below the rib edge. An estimated length of 18 cm was arrived at by percussion and measurement. No enlarged veins in abdominal wall; nor fluid in the abdomen. Blood findings: Hg. 49% Sahli; R. B. C., 2,904,000; W. B. C., 4,500. Differential count: P. M. N., 60%, L. L., 15%; small L., 24%; Eosinophiles, 5%. Anisocytosis marked. Bulk of red cells measuring 5 and 6 m. Resistance test: complete hemolysis at 0.36%. Wasserman not done. Urine: no bilirubin; urobilin and urobilinogen in large amounts. Duodenal contents were secured on two separate occasions, one week before and the day of operation. Contents dark, chocolate color; urobilinogen 0; urobilin, 4,400 units. HH index, 1.2; Splenectomy by Drs. Franzen and Dunsmore on April 10, 1918, was uneventful. Spleen weighed 950 gm. The pathological report made by Dr. Bell reads: "Considerable fibrosis throughout, large numbers of eosinophiles, sinuses usually very small, lymphoid follicles some enlarged, others decreased in size by encroachment of the fibrous changes." On April 19th, 8 days after, the jaundice had entirely disappeared and the urine was free of pigment. On April 25th, 15 days after: blood findings: Hg. 58 Sahli, R. B. C., 3,975,000; W. B. C., 12,000. Duodenal contents of same date: 50 cc obtained, light yellow in color; Urobilinogen 0, Urobilin 1,200

units (normal). This little patient is reported well 6 months after the interference.

Case No. 2723. Mrs. F. S., female, age 25, married, Danish descent, housewife, was referred by Dr. Iver Severson on June 6th, 1918. Her chief complaint, chronic jaundice and periodic attacks of headache, prostration and abdominal distress of indefinite character. Family history is entirely without bearing. Past history that of normal childhood except beginning at about the age of 10 she was subject to attacks of headache, nausea and vomiting without colic lasting a day or two. These would occur four to six times a year. At 15 she began without abrupt onset to be jaundiced, at first slightly so, but always deeper during each so-called bilious attack. Beginning at 16 and ending at 19 more frequent attacks occurred of much severer character—namely, colicky and followed by tenderness in the epigastrium and right hypochondrium. She married at 22. Eight months ago she was delivered prematurely of a seven months' conception because of severe toxemia of pregnancy. Since this event she has been even more jaundiced and weaker, but free of colic attacks. Physical examination: medium well nourished, normal type, normal circulatory apparatus, rather deeply jaundiced skin and mucous membranes. No scratch marks. (However patient states that from her 16th to 19th year there was itching of the skin). Liver not palpable. Spleen 6 c. m. beyond costal border, hard, notched edge. Percussion, length 16 c. m. Blood findings: Hg 60 Sahli, R. B. C., 2,758,000; W. B. C., 18,150. Differential: P. M. N., 83.5% L. Lymph. 7.5%; small L. 8.5%. Transitional and eosinophilis .5%. Morphology of red cells: microcytosis, otherwise negative, complete hemolysis at .45% nac. Autoagglutination present. Wasserman negative. Urine: dark brown color; bilirubin none; urobilinogen and urobilin heavily present. Duodenal contents removed 6/18/18. Very dark brown. No biliary casts or pus. Urobilin, 9,600; urobilinogen, 16,000. Patient splenectomised and gall-bladder removed by Dr. Severson on 6/10/18. The latter was atrophic and contained a half dozen ovoid, soft, pigment stones, the largest having lodged in the neck of the bladder. The spleen, free of blood, weighed 580 gm. It proved to be

somewhat adherent. The pathological report is similar to that of case one, with perhaps added fibrous changes. On Aug. 19, 1918, patient presented herself for examination. She is free of jaundice dating from a few days post-operative. Her blood findings yield Hg. 70 Sahli (normal) R. B. C., 4,750,000; W. B. C., 6,760. Urine clear and free of pigment. Duodenal test urobilin, 1,400; urobilinogen, 600.

Discussion: Both of our cases are of the acquired type, both definitely ill aside from the cosmetic disturbance. Both exemplify very well the splenic crisis—headache, prostration, vomiting and deeper jaundice. During such an attack in another patient I have been able to establish a distinct enlargement of the spleen. In the second patient the presence of gall-stones was announced by biliary crises distinctly more painful and sharper in nature. It is important to keep the distinction in mind. Pregnancy added to the liver's burden with the resulting toxemia. That the liver shares in the pathology of this state has been quite definitely established by Litzenbergs' studies. In both patients the high duodenal pigment values clinched the diagnosis and indicated the spleen. In the second patient we anticipated a good deal of direct liver pathology because of very high value of urobilinogen. This patient is regenerating liver cells rapidly but even today, 60 days after ablation of the splenic burden has not entirely repaired the damage, for while urobilinogen has fallen from 16,000 to 600 units, its presence even in this amount indicates a residuum of hepatic cell functional pathology. It is conceivable that this patient if left unrelieved, would in time have developed a biliary cirrhosis. Urobilin the pigment characteristically increased in the bile in hemolytic icterus shows normal values in the first patient 2 weeks and the second 8 weeks after splenectomy.

In conclusion, I agree with C. A. Elliott's summary, towit:

1. Splenectomy is a cure for hemolytic icterus.
2. The mortality is 4.1%.
3. Severe cases should all be operated.
4. Gallstones, complicating 60% of the cases should be removed later.

DISCUSSION

DR. E. T. F. RICHARDS, St. Paul: Dr. Schneider has shown the advance which has been made in the therapy of hemolytic icterus, and brought out particularly that it was in the acquired form that splenectomy is indicated.

In the congenital type of hemolytic icterus it is very much of a question whether splenectomy is of value. Very frequently, in this type the individual is not made uncomfortable by the presence of the condition. There is slight jaundice, and very often in the congenital type there may be very slight splenomegaly. The individual may live indefinitely. In the acquired form, crises, evidently of splenomegalic origin, associated with increase of jaundice, pain and increase of the anemia, are typical.

So that with the facts on record of 75 cases, splenectomy is definitely indicated in that particular type.

We can make a clinical diagnosis of hemolytic icterus very definitely on five findings: The Jaundice, the splenomegaly, the diminished osmotic resistance of the red cells, the urobilinuria and the anemia. We can put it into a definite group. We can say that we have a case of hemolytic icterus; but unfortunately, like so many other of these curious syndromes, we are no further advanced in the etiology of hemolytic icterus. It may be in the blood. The origin may lie in the liver, it may lie in the spleen.

In the acquired form it would seem that the spleen is most often at fault, and certainly the spleen is the main factor in the progressive anemia, and as Dr. Schneider has so well brought out, the results are extremely gratifying through splenectomy.

In a case which we had an opportunity of studying at the University Hospital, of the congenital type, in a woman of 23, who had been jaundiced from infancy, there was a history of recurring attacks of an epigastric nature, with pain and vomiting, as Dr. Schneider has brought out. At the patient's request a laparotomy was performed, and to our surprise, no gall stones were found in the gall bladder. That was out of accord with the majority of findings, where gall stones are associated with this condition. It would seem that gall stones in the gall bladder itself are merely incidental; and it is quite universally agreed that the gall bladder itself has no part in the etiology of hemolytic icterus.

DR. E. L. TUOHY, Duluth: I do not feel qualified to discuss this paper because I have never had any experience with hemolytic icterus.

My first comment on his paper would be to commend his extraordinarily clear enunciation and delivery. For the sake of the Society this is something we should all attempt to emulate.

We have had more experience with splenectomy in an effort to cure or ameliorate the condition of pernicious anemia. However, we have done no splenectomies for this disease within a year. As Dr. Schneider suggests, there may be a few suitable cases for this procedure, and a fatal crisis may be averted; I do not believe, however, that a cure will ever be obtained by this operation.

The indirect value of a study of the duodenal contents, as shown by Dr. Schneider, is very great, particularly in the study of malignancy at or near the pylorus; the differentiation of pathological processes existing in the head of the pancreas, the ampulla, or in the ducts themselves.

I have observed one case in which splenectomy had been done for a myelogenous leukemia. A curious enlargement of the lymphatic tissues elsewhere in the body soon supervened.

Indirectly, the work which Dr. Schneider has elaborated in the study of the duodenal contents, I consider of very great value. It is not only that it gives data in those instances where you desire a better knowledge of spleen activity, but it helps a good deal in differentiating certain types of malignancy, particularly as it affects the ampulla or the descent of the ducts at the head of the pancreas; you are anxious to know whether you are dealing with a type of prolonged jaundice that is primarily of malignant origin or not.

What he brings out concerning the value of splenectomy in myelogenous leukemia is excellent. I have the data on one case, in which the spleen had been removed, but in which a curious enlargement of the lymphatic tissues elsewhere soon supervened.

The fact that these cases of hemolytic icterus are all cured would point, it seems to me to another feature of interest. Possible if we could get at the real causes of pernicious anemia early enough and push it far enough back, before the bone marrow or other tissues that are intimately concerned in pernicious anemia were affected, something like splenectomy might have cured them.

I congratulate Dr. Schneider on having had these two cases and on having brought them to the attention of this body.

SOME PHASES OF THE NEW CHILDREN'S CODE OF INTEREST TO PHYSICIANS*

WILLIAM HODSON,

Director of the Children's Bureau of the State Board of Control

St. Paul, Minn.

In the summer of 1916 Governor Burnquist appointed a Child Welfare Commission of persons who served without compensation, for the purpose of studying the social needs of children—especially the dependent, neglected, delinquent, and defective children. The Commission was composed of lawyers, judges, social workers, state officials, women interested in public affairs, and others, and it was presided over by a thorough scholar, able jurist and gentleman—Judge E. F. Waite of

*Presented before the Annual Meeting of the Minnesota State Medical Association, Duluth, August 28-30, 1918.

Minneapolis, who in his capacity as district judge, acts also as judge of the juvenile court. After several months of deliberation, the Commission reported forty-one bills to the legislature, and of these, thirty-five were enacted into law. The legislature had passed at one sitting what is, to quote an eastern authority, "the greatest single body of progressive laws relating to children which will be found anywhere in this country." The commission proceeded on three fundamental principles:

1. That a child is entitled to be born into the world sound in mind and body.
2. That he is entitled to the fullest opportunity for growth and development consistent with his capacity and circumstances of life.
3. That he should have protection against his own anti-social tendencies and correctional restraint when necessary.

To sum it all up, the state must assume full responsibility for the well-being of the dependent, defective, delinquent, and neglected child, just as the state now cares for those of its citizens who cannot care for themselves—the insane, the feeble-minded, the pauper, the indigent sick—a well-known principle of law and society and one which doctors frequently apply in their very large numbers of cases for which they do not expect or receive compensation. In such cases the doctors are of their good will performing a state function only imperfectly performed by the state.

It is not my purpose at this time to review in detail the new child welfare legislation, but rather to consider quite briefly some phases of the laws of special interest to physicians. The state's responsibility on the social side for uncared-for children of all classes has been centered in the State Board of Control and in the various county child welfare boards, of which there are now about forty in the state. All the laws have been constructed upon this base of central and single administration.

First, the defective child—more narrowly, the feeble-minded child. Physicians have long been aware of the increasing numbers of feeble-minded persons and of the totally inadequate state provision for them. They have roamed the community, reproducing their

kind, filling brothels, jails, almshouses—a burden and a menace of ever-increasing proportions. Physicians have also learned, to their dismay, that a feeble-minded patient could not be sent to Faribault against the will of parent or guardian, nor could the patient be kept there, if sent, longer than the parent or guardian would permit. Our present law is an improvement. It provides that a feeble-minded patient may be committed, through the probate court, to the state's care under compulsion and without his own consent or that of his parent or guardian. The law, while contemplating a thorough mental examination when necessary, recognizes that compulsory detention by the state must be based upon the existence of possible harm to the community. A feeble-minded person is defined as one "so mentally defective as to be incapable of managing himself and his affairs and to require supervision, control, and care for his own and the public welfare." Conduct in the community is the basis for state interference. But such conduct must be the result of mental defectiveness; therefore let me emphasize here the wisdom of careful and thorough mental examination by a skilled examiner in all cases save those where mental defect is obviously apparent. Two physicians are usually called at these hearings and upon them devolves the responsibility for making out the papers recording the physical and mental condition of the patient and the social history. This record is of the utmost importance in the future treatment of the case. The records which have come to the State Board of Control are, unfortunately, meager and inadequate in many cases.

The second feature of this law is that patients are not committed to the institution at Faribault but to the care and custody of the State Board of Control. As is well known, Faribault is filled to overflowing, with a long waiting list. We are asking the next legislature for increased institutional care on state lands here in Northern Minnesota, with simple cottage and colony care. Such a plan would mean the cleaning of much land and the fitting of it for agricultural purposes. It would also mean reduced cost in maintenance and happier, busier and more useful lives for

the feeble-minded. It is greatly to be hoped that the legislature in the stress of the times will not overlook this vital need. Meanwhile patients are being committed to the care and custody of the Board of Control. They are visited by agents of the Board and classified as to urgency of admittance, with special reference to the girls and women of child-bearing age. Some are advanced for early entrance to Faribault; others are placed under parole supervision in the community. A commitment to the Board of Control does not mean institutional care for all committed but only for those who are the greatest menace to the community—commitment does not mean some kind of state supervision for all who are committed. The larger the number of commitments, the greater will be the dramatic force of the demonstration of practical immediate need for increased appropriation from the legislature, both for institutional care and for care outside the institution. I wish this Association might go publicly on record as to the necessity for much enlarged provision for the feeble-minded.

May I turn now from the mentally defective to the physically defective for the purpose of calling attention to a very small but important section of the new juvenile court act, which reads as follows: "The term 'neglected child' shall mean a child . . . whose parents or guardian neglect and refuse, when able to do so, to provide medical, surgical, or other remedial care necessary for his health and well-being." Most physicians are familiar with cases of children badly in need of medical care, and the parents, by reason of ignorance or stubbornness, unwilling to secure it. Such cases may be brought to the attention of the juvenile court judge on proper petition and the parent can be made to take proper action or the court may appoint a guardian who will do so.

We have considered the child who is mentally or physically defective—what responsibility does the state assume as regards his birth? It is now provided by statute that all maternity hospitals shall be licensed by the State Board of Control. A maternity hospital is defined as any person or association, etc., who receive for care and treatment during pregnancy or during delivery or within ten days after de-

livery, more than one woman within a period of six months. This is a broad definition and includes almost every hospital in the state. The license is given to any hospital that is "needed and is for the public good and is conducted by reputable and responsible persons." The Board is empowered to make regulations and to inspect. You will note that this supervision of the Board of Control does not supersede the power of the Board of Health—the former deals with the social phases of the conduct of hospitals and the latter with the health, sanitary, and technical medical aspects. You may well ask what is the need for such widespread regulation. The answer is that with special reference to the illegitimate child and the unmarried mother a few irresponsible physicians and hospitals have violated all the laws of decency and humanity, and in order to curb the few, the many must submit to general laws of regulation. I am constrained to believe from some direct and a great deal of indirect information, that abortions are being performed in this state in large numbers. I have evidence that in some places in the past a regular traffic in illegitimate babies has been carried on. Unfortunate mothers have been exploited—children born out of wedlock have been passed around like domestic rabbits—sometimes for a purchase price by the person who took the baby—sometimes the mother has paid to have the baby placed out in a home, and in many cases the home to which the child was taken has not been fit and suitable for bringing up a child. Some homes have been conspicuous for their filth and degradation. I do not refer here to the doctor or hospital that seeks honestly and without thought of compensation to help a mother and her child. I quarrel with the manner in which that help is sometimes rendered but not with the spirit or motive. I am considering here the conscienceless profiteers in human tragedy.

The new law then requires all maternity hospitals to be licensed. It also requires that all births shall be reported to the Board of Control as well as to the health officers, and if the child is illegitimate, that fact is specifically noted on the report blank, or if there is doubt, that doubt is recorded. It is the duty

of the Board of Control then, when notified of a woman who is delivered of an illegitimate child, or pregnant with child likely to be illegitimate when born, "to take care that the interests of the child are safeguarded, that appropriate steps are taken to establish his paternity, and that there is secured for him the nearest possible approximation to the care, support and education that he would be entitled to if born of lawful marriage. For the better accomplishment of these purposes the board may initiate such legal or other action as is deemed necessary; may make such provision for the care, maintenance and education of the child as the best interests of the child may from time to time require, and may offer its aid and protection in such ways as are found wise and expedient to the unmarried woman approaching motherhood."

Now, to prevent the promiscuous barter and sale of babies and to make the transfer of rights and duties in children at least of equal dignity with the transfer of inanimate real or personal property, the law provides that no child, under any circumstances, shall be transferred from one person to another until a court of law has so ordered and the transfer is a matter of judicial determination and legal record. The law is as follows:

"No person other than the parents or relatives may assume the permanent care and custody of a child under fourteen years of age unless authorized so to do by an order or decree of court. Except to a maternity hospital as provided by law, and in proceedings for adoption, no parent may assign or otherwise transfer to another his rights or duties with respect to the permanent care and custody of his child under fourteen years of age, and any such transfer hereafter made shall be void."

In the case of illegitimate children, this can be accomplished through the juvenile court in private proceedings without exploiting the mother and the child and yet affording each full legal protection. The records in such cases are not open to the public. Too often in the past the father and the mother of an illegitimate child and their respective families have thought only of themselves and of the possible harm to their reputations. The child has been disposed of as best suited the

family desire for secrecy and protection to themselves. The State Board of Control has insisted, in accordance with the law, that the father of an illegitimate child should be made fully responsible—his responsibility is now legally stated to be the same in all things as though the child were legitimate. The child's interest is paramount because he is the one innocent and helpless party. All persons concerned should be aided and protected in every possible way, but everything must be done with the child's interest as the primary consideration. When more men have been made responsible for children of which they are the illegitimate fathers, we may have less illegitimate parenthood or we may not, but at least the child will have that to which he is entitled—a natural father who is legally responsible for his care and education.

Then with respect to the mother and her child—it has been a common practice among people with the best motives and without thought of private gain, to take infants from the mothers at birth. The State Board of Control and the State Board of Health have jointly taken cognizance of this situation and have decreed that the mother shall perform her full maternal obligation at least in the beginning in order that the child may have a real chance to begin life sound and healthy. Following is a joint resolution of the Board of Health and the Board of Control:

"WHEREAS, the death rate of infants under one year of age is considerably higher among those infants who are artificially fed;

WHEREAS, the health and well-being of infants under one year of age is dependent in large measure upon proper nursing at the breast by the mother;

Now, THEREFORE, BE IT RESOLVED, by the State Board of Health and the the State Board of Control that no patient shall be received by any person or at any hospital or

institution licensed by or under the supervision of either of said boards on any basis other than that the mother shall nurse her own child so long as she shall remain under the care of said person, hospital, or institution.

PROVIDED, that where nursing by the mother is impossible for any physical reason, exception to the above rule may be made by the State Board of Health, or by the State Board of Control acting upon proper medical advice."

May I briefly summarize in conclusion:

1. Mentally defective children may now be committed, through the probate court, to the care and custody of the State Board of Control—this commitment may be by compulsion where necessary. All such commitments will receive attention by the Board, either by institutional care for the most urgent cases, with special reference to girls and women of child-bearing age, or by parole supervision in the community until institutional care can be provided.

2. Physically defective children can be brought into the juvenile court when their parents will not, when able, secure for them proper medical attention.

3. All maternity hospitals are licensed by the State Board of Control in addition to whatever regulation is provided by the Board of Health.

4. All births in maternity hospitals must be reported to the Board of Control in addition to the Board of Health, and a statement must be made as to legitimacy.

5. Rights and duties in a child can only be transferred by order or decree of court—usually the juvenile court.

6. Fathers of illegitimate children should be made fully responsible, and mothers must nurse their babies while under the control of the hospital and as long thereafter as is possible and necessary.



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EDITORIAL

THE INFLUENZA EPIDEMIC

The Influenza Epidemic of the fall of 1918 has just about burned itself out after exacting a toll of Europe and America comparable to the plagues of India or China. These latter we have read about at various times but not considered perhaps very important because they were quite distant.

The weekly reports of the Census Bureau at Washington for February and April show a very marked reduction in the fatalities attributed to Influenza. The mortality, however, is still several times that of a year ago. It is interesting to note that in many of the larger cities reported, the number of deaths due to pneumonia is much below that of a year ago when the diagnosis of Influenza was not so strongly suggested to the physician. This fact suggests that many cases of pneumonia are now being diagnosed as "Flu" when they are primary pneumonias. The differential diagnosis is often difficult but the sudden development of definite signs of pneumonia within two or three days of the onset should distinguish most cases of simple pneu-

monia from influenza. The occurrence of other cases in the same family often gives the cue to the presence of the epidemic condition.

We know that in any epidemic the cases occurring towards its end are less severe. The mortality statistics do not therefore, indicate accurately the morbidity in the influenza situation today. There is undoubtedly still a very considerable amount of la grippe if we are entitled to distinguish this milder condition from the severe influenza.

The variation in opinion regarding the etiology of la grippe or influenza is a sure indication of our ignorance of the bacteriology of the disease, a most remarkable situation when we consider the massive amount of time and thought spent on the subject. The truth is that we do not know the cause nor the mode of transmission of this scourge.

NEW RED CROSS ACTIVITIES

The Red Cross Society was originally founded to care for the sick and wounded during war times. During the recent war although this was primarily its function much suffering was prevented and relieved in civilian communities throughout the world by the spreading of information and the application of well established methods for restricting disease.

With a view towards continuing these civilian activities and extending still further this field of its activities, Mr. Davidson, president of the American Red Cross, called a meeting of representatives of the national societies of Great Britain, Italy, France, Japan and the United States, which was held in Cannes, France in April of this year.

In an address given at the American Red Cross Headquarters at Washington on May 2nd, Sir Arthur Newsholme, K. C. B., M. D., recounted the conclusions reached at this International Conference.

The conference held a number of general meetings in which the general policy was discussed and then divided itself into sections dealing with preventive medicine, child welfare, tuberculosis, malaria, venereal diseases, nursing, information and statistics.

It was agreed that the new work of the Red Cross would naturally divide itself into two parts; an International Bureau and National Organization. The Bureau would act as a great

center for collecting information on various health subjects, digesting it and distributing it by means of publications. The central bureau would co-operate with the national societies, in the main each nation supporting its own national organization.

It is not proposed to compete with activities already being carried on along these lines by other agencies public or voluntary.

Aside from "the momentous decision to endeavor to retain mobilized the forces of Red Cross organizations and to secure their assistance in the great impending struggle against disease, no final decisions have been made."

The Red Cross announces that a resolution embodying this broadening of activities has been adopted by Red Cross leaders in the above mentioned nations and will be submitted to the congress of Red Cross societies to be held in Geneva thirty days after peace is declared.

Just as the Red Cross has been doing for the soldiers what in most instances should very properly have been done by the government, it is now embarking on a new program which should long ago have been provided for by the federal government.

There are certain activities which a Federal Department of Health could take care of to the inestimable good of the nation, activities which city and state health authorities can not handle. Is there any good reason why we should not have a federal department of health and a cabinet secretary? Is it not absurd that a farmer is now able to obtain more information from the government about the care of his hog than about the care of himself? This federal department would act as a central information bureau for individuals, municipal and state sanitarians and health officers. It would control national sanitary problems such as the manufacture and sale of medicine, serums and vaccines, the regulation of rivers from a sanitary standpoint, the standardization of medical reports and vital statistics, the nationalizing of medical board examinations, etc. Such a farce as that of the patent medicine would never have been possible with such a department. Even Dr. Brady might not be necessary.

In the United States Public Health service we see some hopeful sign of the beginning of a

Federal Health Department. It had its beginning in 1798 when Congress passed an act for the relief of sick and disabled seamen. The Marine Hospital Service became in 1902 the United States Public Health and Marine Hospital Service and in 1912 the United States Public Health Service, still a branch of the Treasury Department.

While the Public Health Service was largely active in and about cantonments and military camps at the beginning of the war in September 1918 a war program was announced whereby public health activities were to be nationalized in the way of disease prevention, sanitation and public health education. This program will inevitably widen the scope of the activities of this organization and will include some of the activities which a Federal Health Department would control.

As Sir Arthur Newsholme pointed out in his address at Washington it is the purpose of the Red Cross to co-operate and supplement already established agencies, municipal, state and federal. He states very truly that in a representative government it is our own fault that the public health is not adequately cared for often because of insufficient appropriations.

This new departure on the part of the Red Cross Society if approved by the convention to be held at Geneva is a step in the right direction and should result in a vast amount of good. It will undoubtedly lead to the moulding of public opinion to a conviction of the necessity of work of this character and it is to be hoped will lead eventually to the establishment of the proper federal department to handle such work.

CHANGES IN EDITORIAL STAFF

At a recent meeting of the Editing and Publishing Committee an offer made by Dr. J. T. Christison, St. Paul, to conduct the section of this paper under Progress in Medicine and Surgery was promptly accepted. The policy of making the gist of valuable articles appearing in periodicals other than the A. M. A. Journal available to our readers will be carried out under Dr. Christison's direction.

At this same meeting the appointment of Dr. Charles B. Drake, St. Paul, as temporary editor of Minnesota Medicine was approved, effective April 1, 1919.

TERMINATION OF THE GENERAL MEDICAL BOARD AND MEDICAL SECTION OF THE COUNCIL OF NATIONAL DEFENSE

In view of the termination of the war activities of the General Medical Board and Medical Section of the Council of National Defense, Secretary of War, Newton D. Baker, who, as Chairman of the Council, appointed the members of the General Medical Board, has written a personal letter to each of the seventy-five prominent physicians and surgeons comprising the Board, expressing appreciation for their services and thanking them on behalf of the government. Dr. Franklin Martin, Chairman of the General Medical Board has also written thanking the members of the State and County Committees which for two years have worked under the direction of the Board.

"In terminating the relations between these organizations and the officials with whom they co-operated and worked so effectively," said Dr. Martin, "while one cannot complain that the war is over, yet a feeling of regret must inevitably arise at the severing of such close connections engendered by the friendship and comradeship that are the natural outgrowths of such important associations."

Secretary Baker's letter:

WAR DEPARTMENT
Washington.

My Dear Doctor:

Dr. Franklin Martin advises me that the work of the General Medical Board of the Advisory Commission of the Council of National Defense is now nearing completion and that the board will be dissolved on April 1st.

I cannot permit the occasion to pass without expressing my grateful appreciation of the work which you have done and the singleness of spirit with which your associates and yourself have devoted themselves to the great work which was placed in the hands of the General Medical Board of the Council of National Defense. While it would be invidious to make any appraisal of the work of your board in comparison with that of any other agency organized in the emergency, I need not, I know, assure you that the government appreciates deeply and genuinely the great and essential contribution which has

been made by the Medical Board in the mobilization of the civilian profession, its classification as to specialties and fitness, and in the preparation and organization of information which would enable the Department to secure from the manufacturers of the country vitally necessary instruments and supplies for medical care and attention of our men in the field.

Since the cessation of hostilities the work of the Board has been rounded out to completion. I beg you to accept for yourself and your associates this expression of my deep appreciation of the service which you have rendered to the country. Cordially yours,

NEWTON D. BAKER,
Secretary of War.

Dr. Martin's letter to the members of the State and County Committees:

COUNCIL OF NATIONAL DEFENSE
Washington.

March 25, 1919.

From: Chairman, General Medical Board,
Council of National Defense.

Subject: Termination of War Activities.

Upon the signing of the armistice on November 11, 1918, the strenuous war time activities of the committees of the Medical Section of the Council of National Defense automatically ceased. As the unfinished business in the hands of the committees at that time is now approaching completion, you are hereby notified of the termination of your war duties as a State Committeeman on April 1, 1919.

Not until the history of our part in the great war is written will the people realize the important role the medical profession of the United States played in making our country a deciding factor in winning the war. Do you realize that in the year before our entry into the conflict the commissioned officers in the Medical Departments of the Army and the Navy numbered less than five hundred in each service and that practically 40,000 civilian doctors had been added to these two Corps by the time hostilities had ceased? When the story is told of the enrollment of these thousands of doctors, it must give the largest credit to our many state and county committees who labored so patriotically and continuously to carry out the recommendations of the organization under which they worked,

the Council of National Defense, and thus aided the administrative departments of the Surgeons General of the Army, the Navy, the Public Health Service and the Provost Marshal General.

The work of these committees under the direction of the General Medical Board had to do with activities of which the following is a brief summary: Recruiting medical officers; standardization of medical and surgical supplies; co-operation in controlling venereal diseases; mobilizing five thousand dental surgeons; establishing committees on hygiene, sanitation, general surgery, orthopedic surgery, ophthalmology, otology, rhinology, and laryngology, general medicine, nursing, women physicians; and medical schools; organizing medical advisory boards; the study of industrial medicine; securing through legislation increased rank for reserve medical officers; and finally, individual classification of the members of the profession through the medium of the Volunteer Medical Service Corps.

I want you to know that those of us who have had the responsibility of organizing and enrolling the medical profession and resources appreciate the value of your work and thank you for it from the bottom of our hearts. This includes the Secretary of War who presides over the Council of National Defense, the Secretary of the Navy who is one of its members, and the President of the United States, who appointed the Council and on two occasions has said, in speaking of our state and county committees: "Will you not be kind enough to convey to them a message of sincere appreciation from me of their services as authorized governmental agencies? . . . The health of the Army and the Navy and the health of the country at large is due to the co-operation which the public authorities have had from the medical profession."

Finally, in sending this communication to you after our two years of stressing work together, I want to thank you personally for your ever prompt response to my calls for help and for the evidence you have always shown me of your loyalty, fidelity and friendship.

Yours very truly,

FRANKLIN MARTIN,
Chairman, General Medical Board,
Council of National Defense.

TERMINATION OF THE VOLUNTEER MEDICAL SERVICE CORPS

Characterizing the work of the Volunteer Medical Service Corps and the Medical Section of the Council of National Defense as "a very striking demonstration of the American spirit," Dr. Edward P. Davis, president of the Corps, paid tribute to the patriotism of American civilian doctors at the final meeting of the Central Governing Board of the Corps held in Washington, March fourteenth, prior to the termination of its war time activities April 1.

A report submitted at the meeting showed that nearly 70,000 applications have been received from physicians for membership in the Corps, of which 56,540 had been received and coded prior to the signing of the armistice, November 11, 1918. Qualifications of these civilian doctors, classified and coded on cards, will be placed in the Library of the Surgeon General of the Army, where they will be accessible to all governmental departments for all time to come. With the approximately 40,000 medical officers additional, who are in the Army, Navy and Public Health Service, practically all the able-bodied, eligible doctors of the country will be listed, available for the nation's needs. Usually there are said to be about 150,000 physicians in the United States, but this total includes a large proportion of superannuated, disabled or ineligible.

Dr. Franklin Martin, Chairman of the General Medical Board of the Council of National Defense, expressed his warm appreciation of the co-operation he has received from the medical profession of the country and his firm belief in the value of the records of the Volunteer Medical Service Corps.

Dr. Davis said, in part: "This Volunteer Medical Service Corps and the work of the Medical Section of the Council of National Defense has been a very striking demonstration of the American spirit in more ways than we have imagined. I have always thought of a remark made by the President when the whole thing was in full swing, just about the time the nation had gotten its stride. He said that the men who were staying in this country were having the hardest time. That was true. You take the medical men who

actually went into service. Of course, some of them did office work in Washington, but the men whom I know who have been in the camps here—whether they got to Europe or not—say they have had the time of their lives.

"One man, my assistant, said: 'I am just coming back from a year's freedom from responsibility, except for the immediate performance of my duties.' Another man, who is probably the best X-ray man in the Army, said his career in the Army has been the happiest time he has ever known, because he has worked scientifically without interruption. They had the privilege of being free to concentrate their minds on duty, and I think the remark made by Dr. Studdiford in New York the other night is to the point—that there has not been in the past year in the practice of medicine in the United States one single easy, pleasant, satisfactory thing. He said he hoped he would never have to live to go through another such year.

"When you consider the burden thrown upon the profession of this country by the shortage of resident membership, taking away assistants, nurses, laboratory men; the influenza epidemic, with the consequent increase in morbidity and mortality, and the strain upon the population which is now showing itself—it has been a most hectic war season. I don't think any profession has met a similar crisis in civilization as nobly as did the American profession, and no small part of the moral value and success of the profession was due to this Corps. The fact that we had a Corps where the men could record themselves who did not go to the front had an enormous moral value.

"I personally desire to testify to the pleasure it has been for me to do what I have done. And I have sincerely appreciated the honor which has been given to me."

To about 13,000 doctors whose applications for membership in the Volunteer Medical Service Corps had been received before the armistice was signed but which had not been acted upon by their state committees, now dissolved, Dr. Davis is sending the following letter:

From: Volunteer Medical Service Corps,
Council of National Defense.
To: Applicants for membership.

1. With the cessation of hostilities subsequent to the signing of the armistice, the Council of National Defense, under which the Volunteer Medical Service Corps was organized, asked that the activities of that Corps be terminated, and Surgeon General Ireland of the Army requested that the valuable records of the Corps be given place in the Library of the Surgeon General where they will be maintained permanently for reference by the various Government bureaus.

2. Your application for membership in this Corps, we regret to say, was not acted upon by you. State and County Committees before those Committees were automatically released and, therefore, we are unable to complete your membership by furnishing you with the visible evidence of your tender of service, viz., the insignia and certificate of the Corps. We wish you to know, however, that your patriotic offer of service to your Government has been received and your qualifications as outlined on the Volunteer Medical Service Corps application blank have been transferred to permanent code cards which are to be preserved as an important record of the war.

3. We also wish you to know that those of us who have had the responsibility of organizing and enrolling the medical profession of the country appreciate the value of your offer of service and thank you for it from the bottom of our hearts. This includes the Secretary of War, who presides over the Council of National Defense which authorized the Volunteer Medical Service Corps, the Secretaries of the Navy, the Interior, Agriculture, Commerce and Labor, the members of the Council, and the President of the United States who appointed the Council of National Defense and who definitely approved the Volunteer Medical Service Corps in the following words: "I am very happy to give my approval to the plans which you have submitted, both because of the usefulness of the Volunteer Medical Service Corps and also because it gives me an opportunity to express to you, and through you to the medical profession, my deep appreciation of the splendid service which the whole profession has rendered to the Nation with great enthusiasm from the beginning of the present emergency."

4. Finally, may I express to you on behalf of the Central Governing Board of the Volunteer Medical Service Corps its personal thanks for your generous response to its request for an offer of your services at a time when it appeared they would be so urgently needed by the nation.

EDWARD P. DAVIS, M. D.
President Volunteer Medical Service Corps.

MINNESOTA STATE BOARD OF MEDICAL EXAMINERS—PHYSICIANS LICENSED TO PRACTICE MEDICINE AT THE APRIL 1919 EXAMINATION

BY EXAMINATION

Brown, Edwin Stuart, U. of Pa., 1917.
Cochran, Joseph Plumb, P. & S. N. Y., 1918.
Daniels, John Horton, P. & S. N. Y., 1918.
Eisler, Edwin Roy, U. of Ill., 1919.
Gruenhagen, Arnold Phillip, U. of Ill., 1919.
Gunby, Paul C., Harvard, 1918.
Haines, Samuel Faitoute, Harvard, 1919.
Henderson, Arthur Justin Godtfred, U. of Ill., 1919.
Mattick, Walter Lester, Cornell, 1911.
Milan, Maurice George Albert, Georgetown U., 1913.
Perlstein, Isidor, Harvard, 1912.
Quackenbush, Walter Kendrick, Albany Med. Coll., 1895.
Silver, Horatio Z., Miami Med. Coll., 1900.
Sturre, Julius Richard, U. of Minn., 1918.
Tork, Abraham Phineas, Albany Med. Coll., 1911.

THROUGH RECIPROCITY

Bowers, Harry Elbert, U. of Ill., 1914.
Bussen, Leonard H., U. of Minn., 1902.
Clifton, Theodore Ardsley, Long Island Coll. Hosp., 1910.
Fisher, Lawrence Frederick, Rush, 1914.
Gowdy, Ralph Averill, Chicago Coll. Med. & Surg., 1917.
Larson, Andrew George, Am. Med. Miss. Coll., 1904.
McKeechnie, Wilfred, Queens, 1902.
McNutt, John Roscoe, U. of Michigan, 1916.
Pepinsky, Rae, Roxie Brenner, Miami, 1908.
Schoonmaker, Guy Daniel, Vanderbilt U., 1917.
Van de Erve, Hubert, Rush, 1905.

REPORTS AND ANNOUNCEMENTS OF SOCIETIES

AMERICAN MEDICAL ASSOCIATION MEETING

The annual meeting of the American Medical Association to be known as the Victory Meeting is scheduled for June 9-13, 1919. It will convene at Atlantic City. The delegates for Minnesota are Dr. Geo. D. Head of Minneapolis and Dr. W. H. Magie of Duluth. The American Medical Journal for May 10, 1919, gives in detail the program and all information necessary for the benefit of those considering attending.

SOUTHERN MINNESOTA MEDICAL ASSOCIATION

The mid-summer meeting will be held June 23 and 24 at Rochester, Minn., and not June 30 and July 1, as has been previously announced. Dr. Willy Meyer of New York, Dr. Arthur Dean Bevan of Chicago, Dr. John Prentiss Lord of Omaha, and Dr. Robert Jones of Liverpool, England, will appear on the program.

OFFICERS

John Williams, Pres., Rochester, Minn.
W. E. Sistrunk, 1st V. P., Rochester, Minn.
W. J. Richardson, 2nd V. P., Fairmont, Minn.
H. T. McGuigan, Sec., Red Wing, Minn.
G. F. Merritt, Treas., St. Peter, Minn.
William Whitford, Official Reporter, Chicago.

ANNOUNCEMENTS

Mid-Summer Banquet at Armory Hall Monday, June 23, 8:00 P. M.
Ladies are invited. Courtesy Drs. W. J. and C. H. Mayo

Dr. W. J. Mayo will entertain the members of the Southern Minnesota Medical Association and Ladies at Luncheon Monday, June 23, at the residence. 12:30 to 2:00 P. M. Autos will leave for the residence at 12:15 to 12:30 P. M.

Dr. C. H. Mayo will entertain the Southern Minnesota Medical Association and Ladies at Luncheon at Mayowood, Tuesday, June 24, at 12:30 to 2:00 P. M. Autos will leave for Mayowood at 12:15 to 12:30 P. M.

Dr. Willy Meyer of New York, Doctor Arthur Dean Bevan of Chicago and Mr. John G. Bowman of Chicago will speak at the Evening Session Monday, June 23, Armory Hall, 8:00 P. M.

Physicians are requested to bring their ladies.
Headquarters at Armory Hall.

All papers are limited to ten minutes. This rule does not apply to invited guests.

The President reserves the right to change the order of papers.

Application for membership and payments of dues, Secretary's desk.

IMPORTANT

The attendance will be large and it is imperative that you send in your reservation cards for yourself and your friends at once.

Monday, June 23rd, 8:00 A. M. to 1:00 P. M.

SURGICAL CLINICS

ST. MARY'S HOSPITAL:

Room 1.—Dr. C. H. Mayo—8:00 to 10:30 A. M.
 Dr. A. C. Hedblom—10:30 to 1:00 P. M.
 Room 2.—Dr. W. J. Mayo—8:00 to 10:30 A. M.
 Dr. V. C. Hunt—10:30 to 1:00 P. M.
 Room 3.—Dr. E. S. Judd—8:00 to 1:00 P. M.
 Room 4.—Dr. D. C. Balfour—8:00 to 10:00 A. M.
 Dr. J. C. Masson—10:00 to 1:00 P. M.
 Room 5.—Dr. W. E. Sistrunk—8:00 to 1:00 P. M.
 Room 6.—Dr. J. deJ. Pemberton—8:00 to 1:00 P. M.

SURGICAL PATHOLOGIC CLINIC

Dr. W. C. MacCarty.
 Dr. A. C. Broders. Dr. O. C. Melson.
 Dr. A. E. Mahle.

COLONIAL HOSPITAL:

Orthopaedic Surgery—Drs. M. S. Henderson and H. W. Meyerding.
 8:00 to 12:00 A. M.

WORREL HOSPITAL—8:00 to 12:00 A. M..

Surgery of the Nose, Throat and Ear.
 Drs. H. I. Lillie and R. A. Barlow.
 Laryngology, Oral and Plastic Surgery.
 Drs. G. B. New and C. M. Clark.
 Ophthalmic Surgery.
 Drs. W. L. Benedict and A. D. Prangen.

MAYO CLINIC.

X-ray Demonstration on Stomach Diagnosis.
 Drs. R. D. Carman and A. B. Moore. 11:00 to 12:00.

A complete list of operations will be published and available at the Armory Hall at 8:00 A. M. each morning.

MONDAY, JUNE 23rd, 1912, ARMORY HALL, 2:00 P. M.

SCIENTIFIC PROGRAM

1. Army Psychologic Tests.
 Dr. Arthur Sweeney, St. Paul, Minnesota.
2. Therapeutics in Cardiac Disease.
 Dr. S. Marks White, Minneapolis, Minnesota.
3. Some Phases of the Goiter Question.
 Dr. H. S. Plummer, Rochester, Minnesota.
4. Benign Xanthic Extra Periosteal Tumor of the Extremities Containing Foreign Body Giant Cells.
 Dr. A. C. Broders, Rochester, Minnesota.

5. The Clinical Course and Pathology of an Obscure Osteitis Causing Loose Bodies in Joints.
 Dr. A. R. Colvin, St. Paul, Minnesota.

Discussion by—Dr. M. S. Henderson, Rochester, Minn.

6. The Uterus at the Menopause.

Dr. Ernest Z. Wanous, Minneapolis, Minnesota.
 Discussion by—Dr. Leda Stacy, Rochester, Minnesota.

7. The Treatment of Urethral Caruncle.

Dr. John Grenshaw, Rochester, Minnesota.
 General Discussion.

8. Results in a Series of Mastoids; Operations for Acute and Subacute Mastoids.

Drs. Lillie and Barlow, Rochester, Minnesota.
 General Discussion.

9. The Early Diagnosis and Treatment of Acute Inflammations of the Eye.

Dr. E. W. Benham, Mankato, Minnesota.
 General Discussion.

MONDAY, JUNE 23, 1912

Dr. W. J. Mayo will entertain at luncheon the members of the Southern Minnesota Association and ladies at The Residence, 12:30 to 2:00 P. M.

Autos will leave St. Mary's Hospital, Colonial Hospital and Worrell Hospital 12:00 to 12:15 for The Residence at Eighth Avenue S. W. and Fourth Street S. W.

MONDAY, JUNE 23, 1912—8:00 P. M.

Evening Session—Armory Hall.

BANQUET

Courtesy of Drs. W. J. and C. H. Mayo

Hospital Standardization.

John G. Bowman, Chicago, Illinois, Director American College of Surgeons.

The Medical and Surgical Treatment of Gastric and Duodenal Ulcers.

Dr. A. D. Bevan, Chicago, Illinois.

Discussion by Dr. W. J. Mayo, Rochester, Minnesota.

Air-Tight Thoracic Drainage.

Dr. Willy Meyer, New York City, New York.

Discussion by Dr. C. H. Mayo, Rochester, Minnesota,
 Dr. C. A. Hedblom, Rochester, Minnesota.

TUESDAY, JUNE 24—8:00 A. M. to 1:00 P. M.

SURGICAL CLINICS

ST. MARY'S HOSPITAL:

Room 1.—Dr. C. H. Mayo, 8:00 to 10:30 A. M.
 Dr. A. C. Hedblom, 10:30 A. M. to 1:00 P. M.
 Room 2.—Dr. W. J. Mayo, 8:00 to 10:30 A. M.
 Dr. V. C. Hunt, 10:30 A. M. to 1:00 P. M.
 Room 3.—Dr. E. S. Judd, 8:00 A. M. to 1:00 P. M.
 Room 4.—Dr. D. C. Balfour, 8:00 A. M. to 10:00 A. M.
 Dr. J. C. Masson, 10:00 A. M. to 1:00 P. M.
 Room 5.—Dr. W. E. Sistrunk, 8:00 A. M. to 1:00 P. M.
 Room 6.—Dr. A. W. Adson, 8:00 A. M. to 1:00 P. M.

SURGICAL PATHOLOGIC CLINICS

Dr. Wm. C. MacCarty.
 Dr. A. C. Broders. Dr. O. C. Melson.
 Dr. A. E. Mahle.

COLONIAL HOSPITAL:

Orthopedic Surgery—Drs. M. S. Henderson and H. W. Meyerding. 8:00 A. M. to 12:00.
 General Surgery—Drs. C. A. Hedblom, V. C. Hunt and J. deJ. Pemberton. 8:00 A. M. to 12:00.

WORREL HOSPITAL. 8:00 A. M. to 12:00.

Surgery of the Nose, Throat and Ear.
 Drs. H. I. Lillie and R. A. Barlow.
 Laryngology, Oral and Plastic Surgery.
 Drs. G. B. New and C. M. Clark.
 Ophthalmic Surgery.
 Drs. W. L. Benedict and A. D. Prangen, Mayo Clinic, second floor.
 Demonstration of Diagnosis by Pyelography.
 Dr. F. W. Braasch. 8:00 A. M. to 9:00 A. M.

MAYO CLINIC:

X-ray Demonstration on Chest Diagnosis. 11:00 to 12:00 A. M.
 Drs. R. D. Carman and A. B. Moore.

TUESDAY, JUNE 24, 1919—12:30 to 2:00 P. M.

Dr. C. H. Mayo will entertain at luncheon the members of the Southern Minnesota Medical Association and Ladies at Mayowood, 12:30 to 2:00 P. M.

Autos will leave St. Mary's Hospital, Colonial Hospital and Worrel Hospital for Mayowood at 12:30 to 12:15 P. M.

TUESDAY, JUNE 24, 1919—2:00 P. M.**Afternoon Session, Armory Hall**

1. Causes of Failure after Operations for Club Feet.
 Dr. J. P. Lord, Omaha, Nebraska.
2. The Treatment of Carcinoma of the Uterus.
 Dr. J. W. Little, Minneapolis, Minnesota.
 Discussion by Dr. E. S. Judd, Rochester, Minnesota.
3. Abdominal Adhesions—Etiology and Treatment.
 Dr. E. S. Muir, Winona, Minnesota.
4. Studies in Influenza.
 Dr. E. C. Rosenow, Rochester, Minnesota.
5. Teeth and Their Relation to Focal Infection.
 Dr. Boyd Gardner, Rochester, Minnesota.
 Discussion by Dr. V. I. Miller, Mankato, Minnesota.
6. Intracapsular Cataract Operations.
 Dr. W. L. Benedict, Rochester, Minnesota.
 Discussion by Dr. William R. Murray, Minneapolis Minnesota; Dr. F. E. Burch, St. Paul, Minnesota.
7. Role of Laboratories in the Practice of Medicine.
 Dr. Wm. C. MacCarty, Rochester, Minnesota.
 Discussion by Dr. S. Marx White, Minneapolis, Minn.

OBITUARY**DR. JOHN H. SCHROEDER**

Dr. John H. Schroeder, Minneapolis, assistant in medicine on the faculty of the University of Minnesota, died at the Minneapolis City Hospital on May 2. Dr. Schroeder came to Minneapolis in 1895, where he attended the public schools and graduated from the University of Minnesota in 1916. He is survived by his mother, five brothers and one sister.

DR. WILLIAM A. HALL

Dr. William A. Hall died at the age of 67 years at his home in Minneapolis on April 12. Dr. Hall was born in New York state and graduated from the Albany Medical College. He came to Minnesota 35 years ago and has been practicing in Minneapolis for the last 30 years. He served terms as president of the Hennepin County Medical Society and The Minnesota State Medical Association. Besides his widow he is survived by a son and a daughter.

DR. E. B. DeGRAFF

Dr. E. B. DeGraff of Alexandria, Minn., died at his home at Lake Darling the first week of April from influenza and pneumonia. Dr. DeGraff had retired from the practice of medicine.

DR. DWIGHT SILLMAN

Dr. Dwight Sillman died at the age of 80 years at his home in Hibbing, Minn. Dr. Sillman came to Hibbing five years ago. He was a graduate of the Hahneman College of Medicine and the New York College of Physicians and Surgeons. He is survived by his wife, five sons and one daughter.

IN MEMORIAM

With the death of Doctor Gustav A. Renz which took place on April 13th, the medical profession of St. Paul mourns the loss of a member who long has been identified with the advances in the science of medicine and whose activities covered a wide field.

Dr. Renz was born near Chaska, Minnesota, on the 8th of June, 1860, later moving with his parents to St. Paul, where he spent his boyhood and lived until his death. His early education was received in the common schools, later graduating from the Central High School of St. Paul. After this he entered the Medical Department of the University of Pennsylvania, from which he graduated in 1884. Returning to St. Paul he at once engaged in the practice of medicine.

After a couple of years in practice, being aware of the marvelous advances which were being made in medicine through the introduction of laboratory methods, he determined to avail himself of the advantages of a post graduate course of study in Europe. While abroad he pursued his studies in France, Germany and Austria availing himself of the opportunities to be had in the large medical centres of Paris, Berlin and Vienna, where he received instruction from the most celebrated teachers of the time, and whose unlimited clinical facilities were at his disposal.

Much fascinated by the rapid strides being made in pathology, after the introduction of bacteriology, he devoted much of his time to the study of laboratory methods. After a couple of years spent in study abroad he returned to St. Paul and engaged in the practice of his profession.

He was an active member of the Visiting Staff of the City and County Hospital from its formation until the time of his death, having served first as Pathologist and later as one of the visiting Gynecologists. For a number of years he was Professor of Clinical Gynecology of Hamline University. He was for several years Director of the Laboratory of the Ramsey County Medical Society, and it was under his direction and supervision that the enterprise of preparation and sterilization of catgut was carried out.

He was a member of the Ramsey County Medical Society of which he was an ex-presi-

dent, the Minnesota Academy of Medicine, the Minnesota State Medical Association and the American Medical Association.

While not a frequent contributor to medical literature he kept in close touch with recent advances in medical science.

In 1899 he was appointed Assistant Health Commissioner in which capacity he served continually for eight years. Following this he was appointed and served a term of four years as Health Commissioner. After an interval of three years with the adoption of the present city charter, he was appointed Chief Deputy Health Officer in which capacity he continued to serve until the time of his death.

Dr. Renz was held in high esteem by his patients, colleagues and associates. Death came peacefully on the evening of April 13th after a lingering illness of several months, during which he bore his suffering with singular resignation and fortitude, often refusing the temporary relief which drugs alone would give.

Dr. Renz is survived by his widow and two brothers, Otto Renz, Vice President of the Art Engraving Company and Frank Renz, also of St. Paul.

OF GENERAL INTEREST

Dr. W. W. Covell of Colorado will locate at St. Peter, Minn.

Dr. J. A. Kittelson of Glenwood has moved to Starbuck, Minn.

Major R. E. Swanson, Alexandria, Minn. sailed from France, April 11.

Dr. Trutna has returned to Silver Lake, Minn., from a trip to Cuba.

Dr. J. M. Gibbons who was formerly located at Ashby, Minn., is now in Oslo, Minn.

Dr. A. E. Ahrens, St. Paul, was recently married to Miss Constance E. McMillan.

Dr. C. W. Paulson, recently discharged from army service will locate at Hartland, Minn.

Capt. Frederick Barrett has returned from Camp Lewis, Washington, to Gilbert, Minn.

Dr. G. R. Allaben of Rockford, Illinois, has joined the Shaw Hospital Staff at Buhl, Minn.

Lt. Col. Staley, St. Paul, recently returned from France and is now stationed at Fort Snelling.

Dr. I. F. Selleseth of Northfield, Minn., has recently been promoted from lieutenant to captain.

Dr. Earl Jamieson of Walnut Grove, Minn. was recently married to Miss Hazel Jones of Mankato, Minn.

Dr. R. C. Lowe, recently returned from military service, will resume his practice at Fairmont, Minn.

Dr. Will Robertson has been discharged from army service and will resume his practice at Litchfield, Minn.

Dr. W. H. Smith who has been caring for Dr. Barrett's practice at Gilbert has returned to Cass Lake, Minn.

Dr. Hugh Sloeumb of Belgrade, Minn., was recently married to Miss Hedwig Sund of Minneapolis, Minn.

Dr. J. H. Drake, formerly of the Rood Hospital at Hibbing is now a member of the Chisholm Rood Hospital staff.

Dr. E. J. Huenekens has moved from 803 Physicians and Surgeons Building to 538 La Salle Building, Minneapolis, Minn.

Dr. E. M. Jones, St. Paul, has returned from the Walter Reed Hospital, Washington, D. C., and has opened offices at 817 Lowry Building.

Dr. Harris D. Newkirk has returned from service and has resumed charge of the remedial work of the Hennepin County Juvenile Court.

Dr. L. A. Nelson who has been stationed at Camp Sherman, Ohio, has received his honorable discharge and has returned to St. Paul.

Dr. G. E. McCann has returned to Nevis, Minn., having received his honorable discharge from the medical service in the United States Army.

Dr. J. C. Wilkinson, captain in the medical corps at the base hospital at Fort Sam Houston, Texas, has returned to Red Lake Falls, Minn.

Dr. C. C. Leck has received his discharge from the Post Hospital at Brooklyn and has returned to Austin, Minn., to resume his practice.

Major Wallace Cole, St. Paul, sailed for America on May 8th, after having served two years abroad in the medical corps of the United States Army.

Dr. W. P. Robertson, who has been in the medical service of the United States Navy has been discharged and has returned to Litchfield, Minn.

Dr. Charles Freeman who has been at Camp Dodge has returned and has associated himself with Dr. Paul Cook with offices in the Lowry Building.

Dr. Harlow J. Hanson has located at New London, where his brother, Dr. H. V. Hanson, now a captain in the British Expeditionary Forces, practiced before he went in the service.

Capt. R. H. Monahan returned to International Falls from England where he has spent the last seven months as chief orthopedic surgeon in the Shropshire Military Hospital.

Dr. Bernard Gallagher, who recently received his discharge from the medical corps of the United States Army has rejoined the staff of the Dr. C. T. Granger officers of Rochester, Minn.

Capt. Andrew F. Moynihan of Evacuation Hospital 28, who recently returned from France, has received an honorable discharge from the service and resumed his practice in Sauk Center, Minn.

Dr. Kenneth Taylor of St. Paul has been promoted from Major to Colonel in the medical corps of the American Army and is the senior officer in charge of medical work in the Balkans Palestine and Poland.

Dr. R. N. Jones, who has been stationed at the Army and Navy Hospital, Hot Springs, Arkansas has located at Gaylord, Minn. Before entering the service Dr. Jones was at the Eitel Hospital, Minneapolis.

Dr. A. J. Chesley, Minneapolis, has been appointed head of the public work with the Polish forces. Before entering the service Dr. Chesley was director of the department of preventable diseases of the State Board of Health.

The Minnesota Medical Women's Association is conducting a campaign for funds to support hospitals and doctors in Serbia and the East. Dr. Ida Alexander of Sauk Center, who has returned from overseas, is lecturing through the state. Dr. Auten Pine, St. Paul is state chairman for Minnesota.

NEW AND NON-OFFICIAL REMEDIES

During April the following articles have been accepted by the Council on Pharmacy and Chemistry for inclusion with New and Non-official Remedies:

Non-Proprietary Articles:

MERCURIALIZED SERUM.

DIPHTHERIA TOXIN-ANTITOXIN MIXTURE.

Abbott Laboratories:

Barbital-Abbott Tablets, 5 grains.

Lederle Antitoxin Laboratories:

Anti-Anthrax Serum (Lederle).

Antidisenteric Serum (Polyvalent) (Lederle).

Tuberculin von Pirquet Test ("T. O.") (Lederle).

Tuberculin Subcutaneous Test ("T. O.") (Lederle).

Tuberculin "B. E." (Bacillus Emulsion) (Lederle).

Tuberculin "B. F." (Bouillon Filtrate) (Lederle).

Streptococcus Vaccine, Polyvalent (Lederle).

Paratyphoid Vaccine (Lederle).

Schick Test (Lederle).

Mercurialized Serum-Lederle.

Diphtheria Toxin-Antitoxin Mixture-Lederle.

NEW AND NON-OFFICIAL REMEDIES

Anti-Anthrax Serum-Lederle.—Marketed in packages containing one 50-Cc. syringe with bulb and sterile needle. For a description of anti-anthrax serum, see New and Non-Official Remedies, 1919, p. 269. Schieffelin and Co., New York.

Antidisenteric Serum (Polyvalent) Lederle.—Prepared from horses immunized against the Shiga, Kruse, Flexner and Hiss types of dysentery bacilli. Marketed in syringes containing 10 Cc. each with sterile needle. For a description of antidisenteric serum, see New and Non-Official Remedies, 1919, p. 269. Schieffelin and Co., New York.

Tuberculin von Pirquet Test ("T. O.") Lederle.—Old tuberculin marketed in packages containing three collapsible wax tubes and three scarifiers.

Tuberculin Subcutaneous Test ("T. O.") Lederle.—Marketed in vials containing 1 Cc. For description of Old Tuberculin, see New and Non-Official Remedies, 1919, p. 277.

Tuberculin "B. E." (Bacillus Emulsion) Lederle.—Marketed in vials containing 1 Cc. For a description of New Tuberculin, see New and Non-Official Remedies, 1919, p. 280. Schieffelin and Co., New York.

Tuberculin "B. F." (Bouillon Filtrate) Lederle.—Marketed in vials containing 1 Cc. For a description of Tuberculin Denys, see New and Non-Official Remedies, 1919, p. 280. Schieffelin and Co., New York.

Streptococcus Vaccine, Polyvalent, Lederle.—A streptococcus vaccine marketed in 5-Cc. vials containing, respectively, 50, 100, 200, 400, and 800,000,000 killed streptococci. For a description of Streptococcus Vaccine, see New and Non-Official Remedies, 1919, p. 291. Schieffelin and Co., New York.

Paratyphoid Vaccine, Lederle.—Marketed in packages of three 1-Cc. vials, one vial containing 250 million each of paratyphoid bacilli A and B, while each of the other vials contains 500 million each of paratyphoid bacilli A and B. For a description of Typhoid Vaccine, see New and Non-Official Remedies, 1919, p. 292. Schieffelin and Co., New York.

Schick Test, Lederle.—A diphtheria immunity test marketed in vials containing diphtheria toxin sufficient for ten tests, accompanied by the required amount of sterile diluent to make the proper dilution of the toxin. For a description of the Diphtheria Immunity Test (Schick Test), see New and Non-Official Remedies, 1919, p. 305. Schieffelin and Co., New York (J. A. M. A., April 19, 1919, p. 1136).

Diphtheria Toxin-Antitoxin Mixture.—A far more durable immunity against diphtheria can be established with a mixture of diphtheria toxin and antitoxin than with antitoxin alone. The immunity does not appear until a considerable period of time has elapsed, and hence the mixture is not applicable in an outbreak of disease. In general the over-neutralized mixture is preferred. Several doses are usually required to induce immunity. Only those persons who are positive to the Schick test need be immunized, and the progress of the immunization may be determined by the response to this test.

Diphtheria Toxin-Antitoxin Mixture, Lederle.—A mixture consisting of five L+ doses of toxin and 6.25 units of antitoxin. Marketed in vials containing one dose. Three doses are packed in a carton. Schieffelin and Co., New York.

Mercurialized Serum.—A solution of mercuric chloride in normal horse serum diluted with physiological sodium chloride solution. Mercurialized serum is proposed for the treatment of syphilis, particularly the cerebrospinal type. It can be used intraspinal and intravenously.

Mercurialized Serum, Lederle.—A brand of mercurialized serum complying with the New and Non-Official Remedies description. It is marketed as Mercurialized Serum-Lederle, Dilution No. 1 containing mercuric chloride 0.0013 Gm. in 30 Cc. and Mercurialized Serum-Lederle, Dilution No. 2 containing mercuric chloride 0.0026 Gm. in 30 Cc. Each is accompanied with an equipment for intraspinal administration. Schieffelin and Co., New York, (Jour. A. M. A., April 26, 1919, p. 1225).

PROPAGANDA FOR REFORM

Dichloramine T and Petrolatum Dressing for Burns.—Torald Sollmann reports that solutions of dichloramine-T in chloroform do not protect the large open surfaces of burns against mechanical irritation and access of air. On the contrary, the solution is absorbed by the dressing, which is then glued by the wound secretions and causes pain and injury when the dressing is changed. As a result of a study of the decomposition of dichloramine-T by different solvents, Sollmann proposes the use of an ointment of three parts of surgical paraffin and seven parts of liquid petrolatum as a protective dressing on wounds (burns) treated with dichloramine-T-chloroform solution. It may even be used as a basis for a dichloramine-T ointment (Jour. A. M. A., April 5, 1919, p. 992).

Steven's Consumption Cure.—C. H. Stevens, a discredited London quack, has been attempting to exploit Canadian veterans at the Mountain Sanatorium for the treatment of pulmonary tuberculosis at Hamilton, Ont. The nostrum was claimed to contain "Umckaloabo root" and "Chijitse," but the analysis made for the British Medical Association showed it to contain no active drugs except alcohol and glycerin. The following is a brief history of this "cure": In 1904 Stevens was selling "Sacco" in Capetown, South Africa, but got into the courts and found it expedient to leave Capetown. In 1906, Stevens was in Johannesburg trading as the "South African Institute of Medicine" and selling his stuff as "Lungsava"; was twice convicted of violating the law and left for England. In 1907, Stevens was in London selling his "cure," and in 1910 was declared by the courts to be guilty of intentional fraud and his "cure" pronounced a quack remedy. In 1913, Stevens' "cure" appeared in the United States under the name of "U. C. Extract" exploited by the Umckaloabo Chemical Company of New York City. Today, Stevens is attempting to exploit tuberculous Canadian soldiers who have acquired the disease in the service of their country (Jour. A. M. A., April 5, 1919, p. 1018).

Surgical Solution of Chlorinated Soda (Dakin's Solution).—According to New and Non-Official Remedies, 1919, Surgical solution of chlorinated soda may be prepared: 1. By the electrolysis of a sodium chlorid solution. 2. By the action of chlorin on sodium carbonate. 3. By the interaction of chlorinated lime and sodium carbonate solutions with subsequent treatment with either boric acid or sodium bicarbonate to reduce the alkalinity (Jour. A. M. A., April 5, 1919, p. 1081).

Procain Anesthesia.—There is no evidence of latent injury to the dental nerves from repeated injections of procain to control supersensitiveness of the teeth. If an isotonic solution is used and this solution made sterile by boiling, it is not probable that it will be injurious (Jour. A. M. A., April 5, 1919, p. 1022).

Iodex.—According to Pharmacal Advance, a house organ extolling the products exploited by Menley and James, Iodex has all the virtues of free iodin without its drawbacks. The claim that a given proprietary represents all the desirable therapeutic properties of

a drug but not its drawbacks has been so often proved unwarranted that the claims made for Iodex should receive scant consideration. The report of the A. M. A. Council on Pharmacy and Chemistry on Iodex included a report from the A. M. A. Chemical Laboratory which showed that Iodex, despite the advertising claims, contains no free iodin;—to be exact, when a test for free iodin was made on five specimens, four yielded only minute traces of iodin, while the fifth yielded none (Jour. Mo. State Med. Assn., April 1919, p. 127.)

Paw Paw Tonic.—An advertisement declared that "Paw Paw Tonic" contains no alcohol, but admits that it contains port wine. A newspaper item details the conviction of a Charlotte, N. C. druggist for selling this tonic to young men who became drunk from drinking it. The counsel for the druggist maintained that if Paw Paw Tonic was taken according to directions, the medicine would not produce intoxication. The jury decided that a "patent medicine" which when taken in liberal quantities will produce intoxication, is an intoxicating liquor (Jour. A. M. A., April 12, 1919, p. 1079).

Proflavin Oleate.—This is stated to be the oleic acid salt of the base contained in proflavin (the soluble sulphate of 3,6-diamino acridine). Proflavin oleate is not obtainable in the United States. Proflavin has been proposed in England for use as a wound antiseptic, but its usefulness has been seriously questioned (Jour. A. M. A., April 12, 1919, p. 1099).

Buttermilk Therapy.—For reliable information with regard to new therapeutic measures and reliable brands of drugs proposed for them, New and Non-Official Remedies should be consulted. This book contains a chapter which discusses the probable value of the Metchnikoff sour milk therapy. The book also describes those brands of preparations which the Council on Pharmacy and Chemistry found to be reliable and exploited decently (Jour. A. M. A., April 12, 1919, p. 1099).

The Advertising of Sal Hepatica.—There are two ways of advertising a "patent medicine"—by direct advertisement to the public and by means of propaganda which will lead the medical profession to acquaint the public with it. Sal Hepatica is advertised by the indirect method (Jour. A. M. A., April 12, 1919, p. 1079).

Collosol Cocaine Not Admitted to N. N. R.—Collosol Cocaine (Anglo-French Drug Co., Ltd., New York) is claimed to be a preparation containing 1 per cent. of cocaine in colloidal form and is alleged to possess a remarkably low toxicity. However, the A. M. A. Chemical Laboratory found that a specimen contained not more than 0.4 per cent. of alkaloid; hence it does not have the composition claimed and is in effect misbranded. Further, in England it was conceded that the preparation was not an "absolute colloid" and that the declaration with regard to the percentage of cocaine was incorrect (Barger, Dale and Durham reported that a specimen was found to contain but 0.25 per cent. of cocaine). Without considering other objections, the Council on Pharmacy and Chemistry declared Collosol

Cocaine inadmissible to New and Non-Official Remedies because its composition was not correctly declared (Jour. A. M. A., April 12, 1919, p. 1094).

Cuprase Not Admitted to N. N. R.—Cuprase, sold by the Anglo-French Drug Co., Ltd., New York, is stated to be a colloidal copper hydroxid containing 0.00121 gm. copper per 5 c. c. ampule. A box of eight ampules is sold by the agents for eight dollars and fifty cents, less 10 per cent discount. The Council on Pharmacy and Chemistry reports that the therapeutic claims made in the advertising are those commonly made for cancer "cures" and are about equally convincing. It declares that some of the claims cannot be too severely condemned in a preparation which at best has only an experimental status. The evidence for the value of Cuprase published by the manufacturers or agents presents only vague generalities and no definite data. On the other hand, the evidence gathered by Weil some years ago permits an estimate of the value of Cuprase, and it is entirely unfavorable. In view of the extravagant and cruelly misleading claims and indefinite statement of composition, the Council voted that Cuprase is ineligible for New and Non-Official Remedies (Jour. A. M. A., April 12, 1919, p. 1095).

Goldenrod and Hay-Fever.—In spring, hay-fever is caused chiefly by the pollens of grasses. The fall, hay-fever in the Northern, Eastern and Southern states is for the most part attributed to the pollens of the ragweeds. In the Pacific and Rocky Mountain states they are replaced by the wormwoods. Scheppegrell has concluded that goldenrod does not cause hay-fever (Jour. A. M. A., April 19, 1919, p. 1162).

Germany and The American Chemical Industry.—The Alien Property Custodian has issued a report which, in part, is devoted to a discussion of the influence which Germany has had on the chemical industry in the United States. It outlines how the German government obtained a practical monopoly in the United States in dyes, fine chemicals and synthetic drugs. The report explains how by-products of the dye works were converted into explosives—trinitrotoluene, for instance—and the advantage which the production of these explosives gave to Germany as a military power. The report explains that in medicinal chemicals very little real manufacture existed in the United States. The report discusses the ramifications of the "Big Six"—the German concerns which controlled the dye industry—in American industrial life and describes how their American branches were shown to be enemy owned and therefore taken over by the custodian. The "Big Six" were: Badische Anilin and Soda Fabrik, Farbenfabriken vorm. Friedr. Bayer and Co., Aktien-Gesellschaft fur Anilin-Fabrikation, Farbwerke vorm. Meister Lucius and Bruning, Leopold Cassella, G. m. b. H., and Kalle and Co. Aktien-Gesellschaft. The American firms were: Badische Co. of New York, Bauer Chemical Company, Bayer and Co., (Inc.), Berlin Aniline Works, Casella Co., Farbwerke Hoechst Co., Heyden Chemical Works, Kalle and Company, Merck and Co., Roessler and Hasslacher Chemical

Company and Synthetic Patents Co., (Inc.). The report closes with a description of a corporation to be known as the Chemical Foundation, Inc., which is to acquire by purchase the German patents which in the past have formed a colossal obstacle to the American dyestuff industry. The Alien Property Custodian has sold to this company for the sum of \$250,000 approximately 4,500 patents (Jour. A. M. A., April 19, 1919, p. 1176).

Anthelmintics.—The earthworm reacts with symptom of toxicity to all clinical anthelmintics just as do the parasitic intestinal worms. This fact has enabled Torald Sollmann to re-investigate the claims long made for certain drugs. Spigelia was found to have rather feeble toxicity, but fresh pumpkin seed and squash seed were quite highly efficient (Jour. A. M. A., April 26, 1919, p. 1228).

Annual Meeting of the Council on Pharmacy and Chemistry.—Among the subjects considered at the recent meeting were: The Council decided to publish at an early date a report on the unscientific and commercial propaganda for nonspecific protein therapy. The Council appointed a committee to study the problems of serum and vaccine therapy with a view of publishing the evidence obtainable regarding both the value of, and also the dangers incident to, the use of serums and vaccines. A special committee was appointed to report on the present status of pollen extracts in the prophylaxis and treatment of hay-fever. The Council adopted a resolution urging legislation which shall require the Public Health Service to extend its control of serums, vaccines, toxines and antitoxins to cover other patent remedies that are used hypodermically or intravenously. The Council passed a resolution that the control of arsphenamine by the Public Health Service shall be continued and the price controlled by the government. The Council decided to describe in a separate section of New and Non-Official Remedies proprietary preparations of therapeutic value which are so exploited as to be inadmissible to New and Non-Official Remedies. A committee was appointed to establish fuller co-operation between teachers of therapeutics and pharmacology in medical schools and the Council. A committee was appointed to determine the present status of radium water therapy (Jour. A. M. A., April 26, 1919, p. 1243).

Veracolate Tablets.—The Council on Pharmacy and Chemistry examined Veracolate (Marey Co.) in 1915 and found it to be semisecret in composition, unscientific in combination and exploited under unwarranted claims (Jour. A. M. A., April 26, 1919, p. 1245).

Radium Treatment of Arthritis Deformans.—According to New and Non-Official Remedies it has been claimed that radium emanation is of value in all forms of nonsuppurative, acute, subacute and chronic arthritis (syphilitic and tuberculous excepted), in chronic muscle and joint rheumatism (so-called), in arthritis deformans, in acute and chronic gout, etc. Its chief value is in the relief of pain. Curative results seem to be lacking. (Jour. A. M. A., April 26, 1919, p. 1245)

PROGRESS IN MEDICINE AND SURGERY

A NUTRITION CLINIC IN A PUBLIC SCHOOL: W. R. P. Emerson, M. D. (Am. Jour. Dis. Children, April, 1919) conducted what he calls a nutrition clinic in a public school in the crowded East Side New York and demonstrated it was practical during a school regime to secure a sufficient part of the essentials of health to obtain practical results.

These essentials he emphasizes, are the removal of the physical defects interfering with nutrition, inducing the child to take sufficient food at frequent intervals, obtaining good air day and night, preventing fatigue and securing sufficient home control to insure good food and health habits.

The children were given a complete physical examination, weighed and measured, and were divided into six groups for comparison of results. They were weighed each week—diet lists checked and results charted. A half hour rest period in the forenoon was taken, lunches were supplied when necessary and home visits were made with the object of gaining the parents co-operation.

From this study the author concludes that all children should be weighed and measured at the beginning of the school year and once a month thereafter. When they are seven per cent underweight the parents should be notified that these children require special observation. They should be grouped in open air classes and school pressure removed. Rest periods are necessary, lunches should be available, but provision of food is not in itself adequate to solve the problem of malnutrition.

The class method is an effective one—it represents an economy of time and energy for teacher, school nurse, and administration. There is no evidence in the weighing and measuring of these children that malnutrition, if left untreated, tends on the whole to correct itself. The percentage of malnutrition for the older children is no less than that for the young children. It is, then, fair to assume that the nation's list of physically unfit is supplied by this group of malnutrition children in the schools. Its percentage is about the same as has appeared in the Student's Army Training Corps and recruits for the army rated as physically unfit. The school system should not by its disregard of the physical condition of its children increase malnutrition. By weighing and measuring at regular intervals, by securing careful physical examination, by teaching proper food habits and other essentials of health, it should graduate its children physically as well as mentally fit, thus eliminating malnutrition as an unnecessary element of national weakness.

P. D. BEADIE.

SIMPLE METHOD FOR THE CURE OF PERITONSILLAR ABSCESS: Bilancioni, G., Policlin., Roma, 1918, XXV, 413. Peritonsillar abscesses are rather frequent among soldiers. Three or four attacks a year are not uncommon. Considering the frequency of recurrence the author undertook to determine if the usual methods of operation were not responsible for

the inadequate cure. The three methods in use at present are those of Lemaire, Ruault and Killian.

The anatomic relations are of great importance. If we examined the anterior palatine arch (glossopalatine) we find a fold of mucous membrane which arises from its free margin and extends backwards, passing in front of the tonsil which it partly covers. This fold, which is of great pathologic importance, has a triangular form (plica triangularis of His) and at its apex unites with the palatine arch. Its base disappears in the base of the tongue, while the free margin adheres closely to the body of the tonsil or extends for a variable distance above it, leaving the interstitium interarcuatum of His. Thus the tonsil is to a great extent surrounded by two folds which come from the anterior pillar, the plica triangularis in front and the plica falciformis above. At the upper portion of the tonsillar region, immediately behind the triangular fold, a curved probe may be inserted into a cavity which extends into the soft palate and which has important relations to the tonsil. In this space, the supratonsillar fossa of His, the pus from suppurating tonsils gathers. Some writers hold that in this inflammation the tonsil plays the primary according to others the secondary role. His, Paterson and others believe that peritonsillar abscesses originate in the supratonsillar fossa and in the palatine recess, but it is quite evident that primary phlegmonous tonsillitis is much more common than is generally assumed, but usually gives rise to only inconspicuous abscess or to moderate inflammation which changes to acute follicular or parenchymatous tonsillitis. Generally these benign cases escape the specialist and fall rather in the field of the general practitioner, since the symptoms are confined to enlargement of the tonsils, with scant exudation adhering and protruding from the crypts, edema of the pillars and uvula, and dysphagia and sialorrhea with symptoms lasting four to five days. Suddenly some yellow fetid pus makes its way from the tonsil at some point difficult to notice and the patient feels relieved, and the tonsil is a little less voluminous. When the subjective disturbances are exaggerated, so that the patient can swallow neither solids nor liquids, suffers intense pain and almost suffocates, the fever being high, the neck rigid, there will be observed, if the mouth is opened and the tongue depressed, an enormous swelling in the region of the soft palate, located above the enlarged tonsil and projecting inward and downward. The uvula is intensely edematous and prolapsed. This condition lasts ten to twelve days if not operated upon. This form of angina, which is much more serious than the former, is nothing but an acute follicular tonsillitis which, instead of being localized at various points of the tonsillar body which may open outwardly destroying or perforating the parenchyma, is situated at the upper pole of the tonsil, which is usually well developed, with large crypts, true germ nests, which penetrate deep, at times more than one centimeter, into the interior of the supratonsillar fossa. If a sound is introduced between the uppermost part of the tonsil and the pillars, it will be found that the aperture through which the interior of the fossa is penetrated is often constricted by bands which favor the retention of tonsillar secretions in the

cavity of the fossa. Not rarely the anterior and posterior margins adhere strongly to the respective pillars. The existence of these bands explain why the pus gathers all around the tonsil causing great suffering. The knowledge of these anatomic conditions also explains how an incision from the front, through the soft palate, is often insufficient, failing to reach or only partly emptying the sack behind the tonsil.

To give exit in this form of abscess and, above all, to prevent the relapses due to remain of cryptic tonsilla tissue in the fossa and imbedded in cicatrices, and which within a short time would give rise to a new abscess, the author proposes as a radical cure the extirpation of at least the upper half of the tonsil. Incising the body of the tonsil, the abscess is opened and emptied in toto so rapidly that in half an hour the patient is free from his sufferings. The lower portion of the tonsil may be left in place without harm. There is, in fact, no subtonsillar fossa, as the tonsil at its lower pole is delicate and almost always attached to the neighboring tissues without projecting between the bases of the pillars and the base of the tongue, as is the case at the opposite pole.

—Survey of Head Surgery, Surgeon General's Office.

CARL L. LARSEN.

GUN SHOT INJURIES TO THE KNEE JOINT; SOME SUGGESTIONS WITH REGARD TO THEIR TREATMENT: Wm. Redmond and Walter Galbraith, M. D.'s., Brit. M. J., Nov. 25, 1916. The authors classify types of injury and infection seen, with gunshot injuries to the knee joint. The general treatment outlined depends somewhat as to the type of infection, and the treatment is often based upon the pathological report as to the nature of the fluid in the joint and on the X-ray report.

They classify the types of organisms as follows:

- (a) Mild infections—Enterococcus.
- (b) Moderate Infections—Streptococcus brevis, staphylococcus, bacillus coli, bacillus aerogenes capsulatus.
- (c) Severe infections—Streptococcus longus; classification and treatment of injuries.

A. Aseptic, without fracture, area cleaned, wound untouched or opened, small bullets left; large foreign bodies removed if they expect further trouble; mobilizing dressing used.

B. Moderate or mild sepsis without fracture; Joint irrigated with saline one dram 0.5 eusol injected hourly through one or two tubes, one tube acting as a drain; mobilizing dressings.

C. Acute sepsis without fracture; knee-joint opened, two incisions each side of patellar tendon, joint capsule opened, knee irrigated with saline, supra-patellar pouch opened by lateral incisions; eusol injected every two hours; Thomas splint used.

D. Aseptic with fracture: Removal of missile; knee-joint not touched unless signs of infection; continuous eusol irrigation of the fractured bone.

E. Acute or moderate sepsis with severe fracture; often amputated; sometimes excision of the knee-joint is best treatment; knee-joint left wide open, salt or

eusol irrigation; Thomas splint used with extension in slight flexion.

The article is difficult to abstract in complete detail and it is reported only as a preliminary outline to the work they are doing.

C. C. CHATTERTON.

THE TREATMENT OF INCREASED INTRACRANIAL PRESSURE: William Sharpe (Journal of the Med. Soc. of New Jersey, Vol. XV, No. 3, Mar. 1918) states 80% of tumors of the brain are malignant and even though surgically successful removal of the tumor is possible, yet the end results are the same.

Brain abscess usually results from otitis media with its subsequent involvement of the mastoid; the usual site is the contiguous temporo-sphenoidal lobe and less frequently the adjacent cerebellar lobe. As lesions of the cerebellum can be much more accurately diagnosed than those of the temporo-sphenoidal lobe, therefore, if we can rule out cerebellar abscess the site must be the temporo-sphenoidal, especially the right lobe, in a comparatively silent area of the brain in right handed patients.

Formerly the otologist in cases of suspected abscess of the temporo-sphenoidal lobe would puncture the dura in search of the abscess through the dirty infected field of the mastoid as all operations for brain abscess are really exploratory procedures. It is distinctly unsurgical to open the clean subdural spaces and to puncture the cerebral cortex itself through an infected area; if the abscess is not located (and this frequently happens) then the patient runs the big risk of a resulting meningitis and thus the usual occurrence—the exitus of the patient. Besides the dura should not be punctured blindly with a knife or puncture needle unless the dura has been opened so that it can be clearly ascertained whether an underlying cortical vessel is present or not—many disasters from the resulting hemorrhage have frequently occurred from such procedures. It is much better if the operative incision is made through clean subtemporal area just as in a subtemporal decompression, the vertical incision naturally being used; if the abscess is found then it can be satisfactorily drained through the lower angle of the incision at the base of the skull; and if the abscess is not found then at least a decompression has been performed so that the intracranial pressure is relieved until the abscess may locate itself clinically and the great danger of meningitis and infective meningoencephalitis has been avoided.

Within the last five years the author has examined and treated almost fourteen hundred children having the condition of spastic paralysis. The condition may be due to hemorrhage, to lack of development or to a form of meningoencephalitis for which nothing really can be done. It is now possible to diagnose the ones due to hemorrhage from the other two conditions by means of careful ophthalmoscopic examinations of the fundi of the eyes and by a measurement of the pressure of the cerebrospinal fluid at lumbar puncture by means of a spinal mercurial manometer. If the ophthalmoscope reveals the signs of a definite increase of the intracranial

pressure and those observations are confirmed by the spinal mercurial manometer this pressure may be relieved permanently by subtemporal decompression and definite improvement results both physically and mentally.

GEORGE C. DITTMAN.

PEMPHIGUS OF THE CONJUNCTIVA: Captain Ray Connor and Captain Charles A. Burkholder (Amer. Jour. of Ophth. Vol. 1, No. 8, Aug. 1918) in a short article illustrated in color describe a case which came under their observation for several weeks. The disease is rare, in the case cited one eye was involved, the affection was in a private 25 years old, who had been incapacitated from military duty for nine months, family history unimportant, he gave a history of recurrent attacks of inflammation of the left eye for seven or eight years, exacerbations came and went. While in France the bullae constantly recurred either singly or in pairs both on bulbar and palpebral conjunctiva, lasting a short time and leaving a greyish membrane which gradually atrophied, the vision O. D. 20-30; O. S. 20-100; when first seen the eye showed a slight photophobia and muco-purulent discharge, discoloration of conjunctiva, lower fornix obliterated by adhesive bands, cornea showed scars of earlier ulcerations, iris, lens, media and fundus were normal. During the course of observation blebs formed on bulbar conjunctiva gradually sloughing, smears from conjunctiva showed pus cells but no pathologic bacteria.

The authors conclude that this is a true case of pemphigus of the conjunctiva running the same stubborn course with sequelae although there was no general pemphigus nor lesion in other eye, it must be classed as a mild form of the disease.

GEORGE C. DITTMAN.

APOCODEIN: A New Laxative with Exceptional Advantages. W. C. Alvarez, (Calif. State Jour. of Med. Sept. 1916) states that the gastrointestinal tract is not an automatically working tube into which food is put at one end, progressing uninterruptedly to the other end, rather, it is, a highly complex neuromuscular-vascular mechanism, with antagonistic innervations, under the balance of central nervous system and the splanchnics.

Accepting these facts the author has come more and more to regard constipation as of a nervous or mental origin. In scores of cases he has seen constipation come and go according as patients mind was agitated or at rest.

Constipation is universally associated with a spastic colon which works not too little but too much, pumping the feces back away from the rectum. The great need, therefore, in treating constipation is a drug that will either block the nervous impulses or relax the general tension. In this latter class, some simple nervous sedative, such as adalin or bromural, in small doses given three times a day, is sufficient to relieve the constipation. In the former class atropine in some cases seems to work well in blocking the nervous impulses.

Now apocodein is a drug that combines both the above properties. It is derived from codien as apo-

morphine is derived from morphine. It has been used in the experimental laboratories but very little in clinical medicine. Apocodein has lost most of the narcotic effects of codein and gained in laxative properties. It has a decided nicotin-like effect, paralyzing the sympathetic nerve cells and blocking the inhibitory nerve impulse to the bowel. It also improves the tone of the intestinal muscle and by vasodilation improves its blood supply as well, this again favors increased peristalsis. It is the most laxative of all the opium derivatives, and is an excellent hypopurgative for the violently insane. It is used in doses of 1-15 to 1-10 grain. The author submits the following prescription as one which he has found useful:

Rx Apocodein Hydrochlor. grs. 1/15-1/10.
Atropine Sulph. grs. 1/200-1/150.
Sacch. Lactis grs. ii.
Met ft. caps. tales No. XV.
Sig.—One 2-3 times a day pc.

In suitable cases this combination will insure a normal formed stool without discomfort. The author has had only three cases in three years who were over sensitive to this drug and these were purged quite severely but without griping. Ordinarily there is no need of increasing the dose and some may even taper off. There is no habit formation. There is, furthermore, none of that fatigue and emptiness of the bowel which interferes so much with the resumption of normal activity after purgation.

The relief of constipation would undoubtedly cure many cases of indigestion, but in order to really help these cases the emptying of the colon must be as nearly normal as possible. What is needed is a little extra pressure applied evenly and steadily from above to reinforce the normal gastrocolic reflexes which are most active after meals. This extra stimulus may be mechanical or chemical. Now much harm is often done from the use of "rough" diet especially in enteroptotics who are unable to pass on this cellulose which remains unduly long in the tract, is over digested and causes gas and distress and under nutrition. These cases respond much better to a chemical laxative.

A final use of this drug is in post operative vomiting, here it often acts wonderfully especially if the vomiting is due to reverse peristalsis. Shortly after injections, normal bowel movements occur and nausea and vomiting cease.

N. C. HENSEL.

PROSTATECTOMY: With Its Preparatory and Post Operative Treatment. Bradford Lewis, (Surg. Gyn. & Obst. May, 1919). This instructive paper has been divided into three sections: 1, preparatory; 2, operative; and 3, post-operative treatment. Preliminary to the preparatory treatment the patient should have a careful physical examination. Especial importance is placed upon hemoglobin estimation, blood pressure, blood count, phthalein output of the kidneys, etc. The presence or absence of cystitis is of great importance in deciding between the one and the two stage operation. In brief if the patient shows deviation from normal, he should be regarded as a hazard and must be conscientiously prepared. The infection in the

bladder must be reduced and Lewis advises that this be done by irrigation through a catheter which is retained in the bladder. He objects strongly to removal and reinsertion of the catheter. A hemoglobin above 60% is favorable, 50% questionable, 40% unfavorable 30% fatal. The phthalein output should be above 30% for two hours.

Regarding the route of operation, the suprapubic method is advised because, as the author naively says "you obtain better results." Depending upon the age of the patient and his general condition, decision is arrived at concerning the one or two stage operation.

In a debilitated individual or in a case with an infected bladder the two stage operation is recommended particularly because firm adhesions are formed between the bladder and abdominal walls and also because the bladder itself can be properly irrigated.

The anesthesia as used by the author in the one or two stage operation is novocain or local anesthetic for the cystotomy and gas or ether for the prostatectomy. With the use of the two stage operation one or two weeks are allowed to elapse before prostatectomy is attempted. Lewis concludes with a detailed description of his method for prostatectomy which as a matter of fact is the method that has been generally adopted by the surgeons of the country. The paper is clearly written and is valuable because it condenses an important subject into a few pages.

G. A. GEIST.

A NEW INCISION FOR APPENDECTOMY: Leigh F. Watson, M. D., (Annals of Surgery, Oct. 1918, Vol. LXVIII, No. 4, page 379) states that the number of incisions that have been brought forward for appendectomy from time to time, show that no one incision is adapted to all cases. Many writers have noted that in the cadaver the base of the appendix is found at McBurney's point, while in the living subject it is below this point, usually on a level with the center of Poupart's ligament. A number of operators have called attention to the ease with which the appendix can be removed when operating for right inguinal hernia. Since 1910, I have used a new incision, with its center over the base of the appendix, and believe that in many cases it is an improvement over those in general use.

Incision: A point one and one-half inches from the right anterior superior spine, on a level with a line connecting the two superior spines, is selected for the beginning of a vertical incision which extends directly downward for two to three inches to a point just above, and to the inner side of the internal abdominal ring.

Advantages: Traction to expose the appendix is avoided, because this incision, in the external oblique and its aponeurosis, the most resistant structures, is directly over the base of the appendix. It can be enlarged without weakening the abdominal wall. The ilio-hypogastric and ilio-inguinal nerves are not injured because the incision lies between them. Because this incision is made over the cecum, the small intestines do not crowd into the wound as they do when the McBurney and lateral rectus incisions are used.

STUDIES ON EXPERIMENTAL SURGICAL SHOCK: F. C. Mann, (Am. Jour. Physiol., 1918, xvii, 231-250). The article consists of four studies on experimental surgical shock. In the first study the subject is considered in a general way. It is emphasized that the condition termed shock by the surgeon is due to a large number of causes, and that experimentally it is very difficult to reproduce the environment and all the phenomena which he calls shock. The author found it convenient to classify various conditions termed shock into two groups.

The first group included those cases in which the cardinal signs developed sometime after the exciting cause, the second group those cases in which a severe or fatal issue followed immediately or very closely the action of the exciting agent. The author suggested that each of the various theories concerning the etiology of shock are partially true but that not all of them explain fully the cause of the condition.

The second study has to do with the relation of anesthesia to surgical shock. The effect of a constant ether tension and of slight variations of ether tensions on the different reflexes is discussed. The conclusion is that it is very difficult to study shock unless constant ether tensions which could not be varied by any action of the animal were administered.

The third study discusses the reflex inhibition of respiration as a cause of sudden death during operation. It was found by a study of the various respiratory reflexes under different tensions of ether that the reflex which produced inhibition of respiration was not abolished under high ether tensions in a similar manner to the excitatory reflexes of respiration. On the contrary it was found that this reflex seemed to increase, and under ether tensions just high enough to abolish the eye reflex, it was often possible to produce death by the stimulation of the fibres which inhibit respiration. The author states that ether tensions that will decrease or abolish the excitatory reflexes of respiration do not seem to depress the inhibitory reflexes, and that in most instances the action of the inhibitory reflexes seems to be increased, although this may be only a relative result. Ether tensions that will depress the respiratory center so that it will not respond to the increase of carbon dioxide in the blood, usually will not abolish the inhibitory reflex. Under such conditions stimulation of the nerves inhibiting respiration will quite frequently produce death. This may be the process by means of which sudden death is produced during operation. However, death due to inhibition of respiration should never occur under light surgical anesthesia.

The fourth study is in relation to the capillary and venous beds to the signs of shock. It was found that the ligation of all structures of the limbs of a dog, except the major artery, would usually produce all the signs of shock. The relative amount of tissue involved by these ligatures was on an average approximately 15 per cent of the total body weight. These results following the application of the ligatures were found to be due to, (1) stagnation of circulatory fluid, (2) damage to large areas of tissue in such a manner

that their mechanism for controlling food exchange and possibly fluid volume was impaired, and (3) toxic products of cell metabolism and cell disintegration. The probability of these factors being involved in certain cases of shock are discussed.

THE DIFFERENTIAL DIAGNOSIS BETWEEN MITRAL STENOSIS AND AORTIC INSUFFICIENCY: E. H. Goodman, (Am. Jour. Med. Sc. Vol. 157, April, 1919) calls attention to the interesting differential diagnosis between these two conditions which is often a rather difficult proposition. The author takes up in a systematic manner the differences shown in the usual methods of physical examination. In the first place in aortic regurgitation the left border is usually beyond the 9 or 10 cm which is usually considered the limit of the normal heart measurement to the left, and the apex beat is felt as a tumultuous diffuse slow rising and falling impulse in the fifth or sixth interspace. In mitral stenosis on the other hand, the left border may not lie beyond the normal left hand limit as no hypertrophy accompanies this lesion, in his opinion, unless a mitral regurgitation accompanies the stenosis. The apex beat in the stenosis is more circumscribed and taps the palpating hand. No differences in the character of the thrill in the two conditions can be determined.

Pulsating vessels, the Corrigan pulse and a capillary pulse are all common in aortic regurgitation. A Corrigan pulse, however, is not uncommon in other conditions. Traube's sign can sometimes be elicited at the elbow with the arm extended over the head when it cannot be heard elsewhere.

Taking the average pulse pressure to lie between 45 and 55 mm. Hg. a pressure above that points towards aortic regurgitation. In the same manner a difference of more than 60 mm. Hg. between the systolic pressure in arm and leg suggests the same lesion.

Auscultation gives little differentiation. The Graham-Steell murmur of stenosis is seldom heard beyond the area of production while the diastolic in aortic regurgitation can usually be heard down the left border of the sternum.

C. B. DRAKE.

THE PROPHYLAXIS OF MALARIA. In an article appearing in the Am. Jour. Med. Sc. Vol. 155, No. 1, C. C. McCulloch in reviewing the subject lays emphasis on the importance in warfare of little things, viz: bacteria. It was in 1880 that Laveran, a French army surgeon discovered the plasmodium in the blood and in 1883 King definitely stated the association of the mosquito. This was a little later proven by Ross and still later experiments by Sanborn and Low in 1900 are detailed. The astonishing percentage of ineffectives in the various modern military campaigns resulting from malaria is further described and the sanitation in Cuba and Panama under Gorgas mentioned.

Some interesting points regarding the identification of the kind of mosquito through the egg, larva, pupa, and full grown stages are given. The eggs of all mosquitos are laid on or near the water. Those of the Anopheles are laid singly with slight tendency to cohere and hatch in two to four days. The larval stage is that of the well known wiggle-tails. The larva of the anophelis are smaller than the other species and lie with their bodies parallel to the surface of the water instead of forming an angle of 45 to 90 degrees with the water surface as the Cullex and Stegomyia respectively do. They stay on the water surface and dart about looking like dark colored short spicules. This stage lasts about a week or two depending on the temperature. In all mosquitoes important medicinally the male has feelers as long or longer than the proboscis but only in the anophelis is this true of the female. The female mosquito alone sucks the blood. The antennae of the male has long silvery hairs while those of the female have only a few downy ones.

The adult Stegomyia, now called the Aedes Calopus, is black and white in coloring while most Anophelines have black or brown patches on their wings though some are mottled yellow and brown. Again the Anopheles instead of resting with its body parallel to the wall is tilted at an angle of about 45 degrees. The song of the Anopheles is in a lower key and thus less distinctly heard. The Anopheles too is more often found in rural districts in contrast to other varieties more urban in location.

In attacking a malaria-infected district the following methods should be used:

1. Eliminate breeding places for an area of 300 yards about a village or 100 yards about a dwelling. This is effective practically although mosquitoes and especially the Anopheles can fly a greater distance than this. This is most effectively performed by drainage.
2. Kill the larvae with crude oil or kerosene placed on the water surface which prevents the larvae from breathing, or the addition of a larvacide, preferably some form of carbolic acid.
3. Screening is better than mosquito netting. Brush should be cut about the house for a hundred yards at least as this affords protection to the mosquito from the sun.
4. Malarial patients should be screened.
5. The prophylactic use of quinine, 6 grains daily or 15 grains two days in each week. C. B. DRAKE.

BOOK REVIEWS

QUARTERLY MEDICAL CLINICS. Frank Smithies, M. D. Vol. 1, No. 1.

It is with much pleasure that I reviewed the first volume of the Quarterly Medical Clinics. Knowing Dr. Smithies both personally and professionally we had

looked forward with great anxiety to his new work in the literary field.

The cases are well selected from his vast material, their histories and physical examination are short but complete and the discussions are thorough and tend to bring out all points in differential diagnosis. The notes on clinical and laboratory procedures are of special value to the specialist as well as the general practitioner and laboratory man. It gives us a review of both the old and new method of laboratory technique and their clinical application.

The volume also contains numerous illustrations which amplify the text.

W.M. C. CARROLL.

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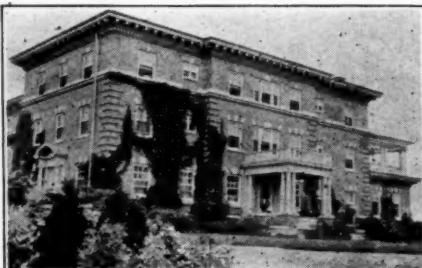
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